PROJECT DELIVERY ACCELERATION

TOOL BOX

Improvements to the

Project Delivery Process

Caltrans

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INTRODUCTION

The Project Delivery Acceleration Toolbox (Toolbox) is a comprehensive report listing the California Department of Transportation's (Department) efforts (past and present) to accelerate the delivery of transportation projects. This document also identifies proposed tools to be implemented by the Department over the next few years. This document will be modified often to reflect the most current and continuing improvement efforts of the Department. The purpose of this document is to provide the Department's employees, as well as our external partners, valuable tools that can be used to accelerate project delivery. This document can be found on the Department's Project Delivery website located at: http://www2.dot.ca.gov/hq/oppd/projaccel/index.htm.

The Toolbox contents are separated into three sections: Implemented Improvements, Proposed Improvements, and Status of Improvements. Sections 1 and 2 are organized by Department functional division (i.e., Budgets, Planning, Programming, etc.). Section 3 lists all improvements in a spreadsheet format for quick reference and indicates the status of each improvement.

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IMPLEMENTED IMPROVEMENTS

1 BUDGETS

1.01 Streamlining the Federal Authorization Process

The Department in cooperation with the Federal Highway Administration (FHWA) continues to make ongoing changes to streamline the federal authorization process. The single biggest change since the passage of the Intermodal Surface Transportation Efficiency Act of 1991 has been the stewardship agreements signed in 1992 delegating to the Department the authority to authorize many projects for federal funding. This alone has eliminated approximately 2 weeks of federal review time for each Plan, Specification and Estimate (PS&E). The Stewardship agreements have since been revised and consolidated into one agreement that was executed between the Department and FHWA on December 26, 2002.

Shortly after the original stewardship agreements were signed, the Department implemented an electronic transmittal of project funding information to FHWA allowing a 2 to 3 day savings in mail time. Most recently the authorization documents (E76s) and the federal aid project agreements (PR-2s) have been combined into a single E76 process saving time and resources in the federal authorization process.

Federal law requires each project proposed to receive federal funds to be included in an approved Federal Statewide Transportation Improvement Program (FSTIP). FHWA allows entries into the FSTIP by category of work thereby creating a lump sum entry in the Federal Transportation Improvement Program (FTIP). Projects covered under the lump sum in some cases can be federally authorized 1 to 2 months earlier than they would have been if a formal amendment to the FTIP had been required.

1.02 Soft Match and Tapered Funding

The California Department of Transportation (Department) has been using soft match credits and tapered funding on a project-by-project basis.

The soft match credit allows the State's capital cost for early acquisition of right-of-way (R/W) prior to the completion of Federal environmental clearance and federal authorization to be credited towards the non-federal matching requirement for project cost after federal authorization is received. This allows R/W purchases to take place earlier without jeopardizing later federal funding. An example of soft match is using the credit for non-federal funding for R/W acquisition and support costs.

Tapered funding allows the full federal share of a project to be reimbursed before the matching funds must be spent. Normally the federal share and matching funds are

spent proportionally throughout the project life. With multiple funding sources for projects, tapered funding allows projects to begin prior to all funds being fully available. Projects with local entity funding use federal funding first then use local funding to pay the final costs of a project. By the completion of the project, both federal funds and matching funds have been spent in the correct ratio required for federal funding.

2 CONSTRUCTION

2.01 Critical Path Method Scheduling

Critical Path Method (CPM) scheduling is intended to show the work as planned and provide documentation of the actual work as it occurs. Planning the work encourages contractors to stay on schedule, and alerts the Department to potential delays. Allowance to bank State-owned float provides incentives to the Engineer to review Contractor submittals expeditiously. The amount of float banked to offset State-caused delays is the quantity of days that reviews of submittals are completed earlier than as required in the contract.

2.02 Constructability Reviews

Prior to formalizing constructability reviews in 1997, there was no requirement for input by construction staff prior to draft project plans and specifications review. On complex or value-engineered contracts construction staff may have been included during the project initiation study and/or design phase. In 1997, the Division of Design issued a policy guideline institutionalizing constructability reviews at appropriate milestones. One intended aspect of the constructability reviews is to provide the Division of Construction (Construction) expertise to Design regarding speed of construction. They are considered Construction's opportunity to recommend contract bidding methods to improve the speed of construction.

2.03 Cost-plus-Time (A + B) Bidding

In A+B bidding the successful bidder has the lowest combination of the "A" contract amount, which is the total bid price of all contract items, plus the "B" amount, which is the total number of working days bid by the contractor to complete the whole work multiplied by the "Cost per Day" which the Department calculates, and includes the lesser of road user costs (as calculated by the District Traffic Engineer) plus liquidated damages or 0.1% of the engineer's estimated cost of construction. Contractors who bid on contracts with A+B bidding have generally bid fewer working days than calculated by the Department (average is 27% fewer working days). A + B bidding was piloted in 1993. In 1995, FHWA determined that A + B bidding was no longer experimental and agencies were allowed to implement on projects without FHWA prior approval. New specifications and guidelines for employing A + B Bidding on projects were issued in September 2002. A+B bidding is routinely

incorporated into projects with greater than a $5 million engineer's estimated cost of construction and with greater than $5,000 daily road user cost. However, Construction has an exception process in place that allows projects with less than those amounts to incorporate A+B bidding. The Department would like to continue to increase the number of projects advertised with A + B bidding while being mindful of schedules affecting productivity and safety of contractor's workers. Low-bid environment causes contractors to be as aggressive as possible in estimating construction time.

2.04 Incentives/Disincentives

Incentives/Disincentives (I/Ds) encourages a contractor to meet the contract's specified schedule. The incentive and disincentive are usually based on liquidated damages and/or road user costs. Historically, use of I/Ds began on emergency contracts. Guidelines for employing A+B bidding and/or I/Ds on all projects (including non-emergency projects) were issued in June of 2000. I/Ds are used only on projects with a greater daily road user cost than $5,000.

2.05 A + B with I/Ds

In special circumstances, these two items can be used together when there are critical internal milestones to encourage timely delivery of the milestone to minimize overall contract time. When I/Ds are used in conjunction with A+B bidding, caution is taken to ensure costs do not overlap, since both I/Ds and the "Cost per Day" used in the "B" calculation of A+B bidding are based on liquidated damages (LDs) and road user costs (additional LDs).

2.06 Internal Milestones

Internal Milestones may be desired and can be incorporated into the specifications of a contract during the design phase. These needs are usually identified during Constructability Reviews. Internal Milestones can ensure speedy construction up to that milestone(s) and/or ensure a given segment of construction is completed at a given time for various reasons, such as private business needs, right-of-way requirements, or cooperation with overlapping projects. The extra cost of speedy construction to the milestone(s) is competitively bid.

2.07 Joint contractor/state Value Analysis Study Immediately After Contract Approval

A special provision "Value Analysis (VA) Study Workshop," is being included in all contracts estimated to cost more than $5 million. This specification provides an opportunity for the Department and contractor staff to meet for the purpose of generating and developing ideas for reducing the contract's cost and time.

2.08 Construction Contract Time

A new policy implemented in February 2001 requires project engineers to employ standard industry production rates and critical path method (CPM) schedules on all major projects (costing $750,000 or more) to determine the original construction contract time. Previously, project engineers would review projects of similar cost and scope to estimate project time or use in-house production rates to determine contract time. There are numerous bidding methods to decrease contract time. In addition, the Department is also utilizing new technologies to decrease construction contract time. One of these technologies is Fast Setting Hydraulic Cement Concrete. As the name suggests, this concrete sets fast but has high cost and limited use.

2.09 Differing Site Conditions Management Review Committee

Differing Site Conditions (DSC) disputes can be particularly complex, difficult to analyze, and require the consideration of various sources of information. In addition, DSC disputes often occur during the subsurface work performed early in a project, and can be protracted disputes that are costly to the Department when not resolved early. DSC disputes are relatively common during a contract and can proceed through both the claim administration and arbitration phases of dispute resolution.

A new process was implemented in February 2002 to clarify early the Department's position on DSC dispute. This process takes place after the Contractor files a notice of potential claim regarding a DSC and involves a management review committee early in the potential claim process. The management review committee consists of the Deputy District Director of Construction (chairperson), the structure construction area manager, and the construction coordinator. This process also provides an opportunity for the Department to maintain statewide consistency in dealing with DSC disputes.

2.10 Time-Related Overhead

The Department has developed and implemented use of a Time Related Overhead (TRO) specification to provide timely compensation to its construction contractors for owner-related delays. The Department initiated a pilot program in August 2000 to include the TRO bid item and specifications in construction contracts with greater than a $5 million engineer's estimated cost of construction. Results from a formal evaluation of the pilot program are favorable. Some of the benefits of using TRO specifications include:

- Allows a bid item for compensation of TRO based upon competitive bidding that is driven by market forces and contractor efficiencies.
- Permits administration of overhead compensation at the resident engineer's level.

- Provides "real time" project management, allowing the project manager and resident engineer to quickly quantify delay cost impacts as the proposed changes or disputes occur.
- Reduces contentious, non-partnering atmosphere. Eliminates polarized positions on overhead disputes during contract administration.
- Resolves delay issues before the completion of the work.
- Eliminates time-consuming, complex, and expensive audits in most cases.

The Department's management plans to continue the use of TRO specifications in State Highway projects over $5 million and potentially increase the scope of projects that use it after further evaluation.

2.11 Increased Construction Cost Savings to the Contractor for Reducing Traffic Congestion

A legislative proposal was initiated by the Department to encourage contractors to submit more cost reduction proposals that would reduce or avoid traffic congestion during construction of a project. As a result, AB 1530 was approved and became effective on January 1, 2002. This bill increased the compensation to the contractor from to 60% if cost reduction changes significantly to reduce or avoid traffic congestion during construction. Prior to this bill, the contractor received 50% of the cost reduction as an incentive. A special provision "Cost Reduction Incentive" has been revised and is being included in all contracts to implement this bill

2.12 Contract Disincentives to Promote Timely Construction Completion

To ensure timely completion of transportation projects, the contract specifications should specify the start date, and the completion date (contract sections: "Beginning of Work", and "Time of Completion") with damages paid to the State for not meeting these milestones. The damages are assessed under the contract provision "Liquidated Damages". The magnitude of the liquidated damages is estimated by cost to the State for not finishing on time, usually consisting of direct costs with field/corporate overhead mark-up, and sometimes costs associated with delaying adjacent or follow-on contracts. Road user costs are typically not included unless the project engineer can determine the daily lost opportunity cost for the motorist. Construction may recommend these contract incentives or others as appropriate, during Constructability Reviews.

2.13 Emergency Contractor Registry

During year 2000, the Department invited contractors to voluntarily register at the Emergency Contractor Registry web page: http://www.dot.ca.gov/contractor. The purpose of the registry is to build a database of contractors who have indicated an interest in helping the Department expedite emergency work. The Registry contains

over 2,500 entries of contractors and includes addresses, phone and fax numbers, types of work they can do, types of equipment they possess, and other information as applicable.

2.14 Traffic Contingency Plans

The last several years of the Contract Administration Process Evaluation (CAPE) has revealed deficiencies in traffic contingency plans. Construction has improved guidelines and policy regarding effective use and requirements of contingency plans, which help to keep construction on track and allow safe passage through the jobsite when there are delays or when various factors beyond the contractor's control occur.

2.15 Notched Wedge Paving

Previous Department guidelines allowed a maximum 0.15-foot vertical lane-to-lane drop-off at longitudinal construction joints for asphalt concrete (AC) paving operations. The Department is now allowing contractors to utilize a tapered wedge at the longitudinal joint in lieu of a vertical joint. The tapered wedge is typically constructed by means of a strike off plate attached to the outside of the screed. The Department allows contractors the opportunity to utilize this device on contracts with AC paving where lift thicknesses are between 0.15 and 0.25 foot. The advantage is to expedite the work by allowing a larger drop-off than 0.15 foot while not compromising safety. The notched wedge is 1 foot wide and is usually tapered at approximately a 1 (V):10 (H) slope.

2.16 Dispute Review Board (DRB)

On contracts of $10 million or greater, a mandatory dispute review board (DRB) must be established. The DRB is a three-person board that hears presentation of information from the contractor and the State, reviews the information, discerns facts, and makes a recommendation to the parties as to who is correct and why. This provides the District/Region Resident Engineer and contractor an objective, third-party opinion valuable in helping to settle disputes and keeping the contract on schedule.

2.17 Policy to Pay for Acceleration Costs During Construction When Cost Effective

A Department/industry team chartered to focus on contractor enhanced Transportation Management Plans has included a policy to pay for the cost of acceleration during construction. Cost effectiveness is being defined as avoiding motorists' delays. The team is considering a "Cost Reduction Incentive Proposal" (CRIP) type of specification that would compensate contractors for avoiding/minimizing actual motorists' delays.

2.18 Lane Closure Software

Construction, Traffic Operations and Maintenance have developed an interim lane closure request/processing/tracking system to reduce the amount of time to request/accept closures.

2.19 On-line Debarment List of Debarred Contractors

In 2000, the California Legislature passed AB 2275, which authorizes the Department to regulate actions against parties who willfully conceal, misrepresent, or alter quality control results. The debarment process is intended for conspicuous patterns of fraudulent test and inspection reports. Names of debarred Contractors will listed on the Internet. This will ensure true test results and will minimize delays and re-work due to fraudulent test results. This list can be viewed at: http://www.dot.ca.gov/hq/construc/debarred.doc

3 DESIGN

3.01 Re-engineering the Project Development Process

Three pilot teams implemented a “reengineered” process, producing State Highway Operation and Protection Program (SHOPP) Projects that focused on three key elements:

- Utilizing multifunctional work teams responsible for the project from inception through construction,
- Allocating funding on a program level, rather than project by project, based on a performance-based long term preservation plan, and
- Advertising and awarding construction contracts on a corridor or geographical basis, with individual projects being let on a task order basis (Master Contracts).

The key benefits realized from the pilots included:

- The use of multifunctional teams significantly enhanced the project team dynamics, developed ownership of the projects by all team members, and increased project team communications resulting in instant feedback between functions. This resulted in less rework within projects, less delays between functional units, and overall accelerated delivery of projects.
- Providing funding on a program level rather than a project level provided the project owners (maintenance and operations) greater flexibility in the handling of funds to address the immediate needs. The project owners also maintained a greater level of control of the project scope, helping to ensure that the project delivered was the project that was originally envisioned. The 10-year SHOPP and the Department's delegated authority for voting of rehabilitation funds were loosely based on this concept.

A multifunctional team is currently being utilized by Traffic Operations as an option to deliver safety projects. The team has developed and is implementing a two page Project Report/Project Study Report (PR/PSR). The team has also developed a procedure to complete surveys early and to start the environmental process prior to the Project Initiation Document (PID) being signed. The team has found that on a large portion of the projects they are able to make Ready to List (RTL) within 18 months of the project being amended into the SHOPP.

While the full "re-engineered" process was never fully implemented, several ideas have been utilized on a limited basis. District 2 is using the multi-functional team approach for safety projects. The North Region is using this approach for projects in the Tahoe area. And District 11 has implemented Corridor Management where a Corridor Manager oversees a multi-functional team delivering projects within a specified highway corridor. Design-Sequencing was developed from the idea of bringing contractors on board earlier than 100% P.S.&E.

3.02 Increased Response to Statewide Cooperative Agreements

A Cooperative Agreement is a formal, legally binding contract between the State of California and a city, county, or other public entity (e.g., Authority, RTPA, MPO, Federal Agency, State Agency, Tribal Governments) whereby there is an exchange of effort, funds, materials or property. The Cooperative Agreement process should be managed as a part of the Project's WBS with the appropriate attention to timing, resources and relationships to other project development activities. The Department is involved in approximately 450 agreements per year and the Office of Cooperative Agreements reviews more than 1000 drafts for agreements each year.

In recognition of the increasing importance of cooperative agreements, the Division of Design (Design) has split the cooperative agreement workload from the Office of Project Development Procedures and created the Office of Cooperative Agreements. Additional staff has been hired to allow maintenance of existing responsibilities, development of new tools, and enhance the liaison role between the Capital Program and the Division of Legal.

3.03 Lump Sum Highway Planting Project

Districts 8 and 11 produced three "lump sum" highway planting projects. These projects consist of one bid for planting and one bid for irrigation work thus creating time-savings in the production of the estimate.

The first "lump sum" highway planting project was developed and implemented in District 8 on Route 60 and has been completed. District Construction reports that a reduction in claims resulted from fewer discrepancies in unit counts, but that contract administration effort is the same as for a traditional unit bid project.

Conflicting expectations between Office Engineer and District Design for appropriate specification language resulted in the second proposed “lump sum” project being processed as a traditional unit bid project.

The third “lump sum” highway-planting project was in District 11 on Route 94 in Lemon Grove and has been completed. District 11 estimates that two to three times more inspection time was required and twice as much effort was put into potential claims resolution than for traditionally prepared contracts.

It is planned that the Landscape Architecture Program and DES-OE will coordinate with several more districts in the coming years to develop and implement more “lump sum” highway planting projects for further evaluation.

3.04 Landscape Architecture Standards Manual

A Standards Manual for landscape architecture projects has been developed to assist the Department’s Landscape Architects in the preparation of design work. It includes guidance on all elements of project development from planning to final PS&E and through construction, including memos of instruction, procedures, standards and policies related to landscape architecture. The manual will be updated and available on the Internet in 2007.

3.05 Design-Sequencing

Legislation authorized a Design Sequencing Pilot Program that allows the Department to award a limited number of design-sequenced projects to a contractor based on plans that are a minimum of “30 percent” complete. This method, although dramatically different from the 100 percent complete project plans, estimate and specifications (PS&E) that are normally required before soliciting bids from potential contractors, may result in faster delivery.

Developing a PS&E package is a process that can take many years to complete for large or complex projects, where various functional units must complete a monumental amount of supporting work, in the proper order, to orchestrate a 100 percent PS&E package. With design sequencing, flexibility is worked into a normally rigid process. It allows each construction sequence to commence when design for that sequence is complete, instead of requiring the design for the entire project to be completed before beginning construction.

3.06 Project Change Control

The Department is implementing "change control" techniques. Change control is focused on keeping projects on schedule by reducing design changes after PA&ED has been completed. These changes can result in significant delays especially if they impact right of way requirements or environmental approval. This is

accomplished by (1) establishing change control teams to coordinate project lock-in process to manage scope changes after PA&ED, (2) determining what controlling "work packages" could cause significant scope changes and developing project schedules that complete these controlling work packages at the earliest opportunity, and (3) use of a Project Study Report – Project Development Support (PSR-PDS) document, which is used as a basis for programming of the PA&ED support, on all projects requiring an environmental document (non-CE). Upon completion of the PA&ED support programmed with the PSR-PDS document, the remaining support components, and right-of-way and construction capital can be programmed with a greater level of confidence and lower risk.

3.07 Value Analysis

The Department's Value Analysis (VA) program can assist in determining the best solution to meet a project's purpose and need, advancing project performance objectives, and/or identifying opportunities for cost savings. VA can serve as an effective tool to help manage the project scope, cost and schedule. The VA methodology requires a multi-disciplinary team to provide a comprehensive review and analysis of the project. Bringing key project stakeholders together on a VA Team can expedite the project development process by facilitating consensus. VA has also been employed to develop and analyze project staging and scheduling alternatives to identify opportunities for accelerating a project's completion. The Department encourages the application of VA studies on a wide range of projects, products, and processes.

Timing is a critical factor in any successful VA study. The potential for improving the quality or cost effectiveness of the project is best at the early stages of a project's development as the degree of improvement potential decreases as the project develops. Typically, a study should be conducted no later than PS&E being 30% complete.

Currently, Congress has passed two pieces of legislation mandating the Department to perform a VA study on all projects (as defined in the environmental document) over $25 million (capital plus support) on the Interstate and National Highway System. Also mandated are studies for bridge projects over $20 million. As stated within the current law, source of project funding is no longer a criteria. All projects, designed and/or funded by the Department, Local Agencies, consultants or others, meeting these requirements must have a VA study performed.

3.08 Project Development Process – On Line Course

An introductory on-line course on the project development process is proposed for November 2005. The course is intended to give a general overview of the project development process from planning through construction. It is intended for a broad audience including Department staff, local agencies, and consultants

4 ENGINEERING SERVICES

4.01 Reduced Listing Period

The "Listing Period" is the time used for final development of contract documents, proofing, and reproduction of bid packages. In 2001, the Division of Engineering Services – Office Engineer (DES-OE) reduced the 6-week listing period to 4 weeks. Contract preparation activities during the listing process were compressed by taking advantage of efficiencies in office automation and reproduction of contract documents. For safety projects, the listing period has been further reduced to 3 weeks. Reductions for all projects are forthcoming with a new draft contract ready process.

4.02 Reduced Advertising Period

The "Advertising Period" is the duration from when contract documents are available to contractors for bidding to the time bids are opened. In March 2001, contracts costing over $1 million had advertising periods reduced by a week or more. In addition, DES-OE reduced the advertising period for Safety Projects, under $2.5 million with 50 or less contract items, from 4 to 3 weeks. Maintenance projects with less than 20 contract items or 20 plan sheets had their advertising periods reduced to 3 weeks. As part of GoCalifornia (GoCA) Industry Capacity Expansion (ICE), DES-OE is evaluating using contract simplicity/complexity in determining the advertising period. On some contracts, the duration would be decreased.

4.03 Contract Execution Period

Contracts allowed 8 days, excluding Saturdays and holidays, for a contractor to execute a contract after award. DES-OE would allow 5 days for mail delivery. In July 2002, the following changes were made:

- Contractors are now provided a pre-addressed UPS overnight mail envelopes to return the signed contracts.
- The special provisions now allow 10 days (instead of 8) for regular contracts and 5 for informal contracts (instead of 4).
- There is no grace period.

The award to execution duration has been reduced to an average of 1.4 days per contract.

4.04 New Contractor Webpage

In August 2005, DES-OE implemented a hotlink on the Department's Website for contractors wanting contract advertisement information. The Contractor Information page has a table that covers general, advertising, bid opening, awards, construction standards, Civil Rights and cost information.

4.05 Streamlined Plans, Specifications and Estimate Submittal Process

The Plans, Specifications and Estimate (PS&E) submittal process is the process where PS&E is submitted from the districts to DES-OE for contract preparation. DES-OE reduced the submittal time from 3 days to 0 days. This efficiency was achieved by DES-OE's development of a fully electronic PS&E submittal package.

4.06 Training by DES-OE

DES-OE provides classes to enable the Districts to deliver full, complete, and accurate plans, specifications, and estimates that can be awarded as legal, cost-effective construction contracts. DES-OE provides a list and schedule of their classes on its website.

4.07 Electronic Bidding Pilot

The first step towards getting to electronic bid submittals was completed recently with a pilot effort by DES-OE. The goals of this effort were to demonstrate proof of concept, facilitate greater small business participation, and test contractor acceptance in using Internet based bidding. The concept for a pilot effort was submitted to the Department of General Services (DGS) for consideration in the Governor's then newly formed California One-Stop eBusiness Center. DGS accepted the concept and Deparment staff worked with DGS consultants to develop a basic pilot system. The pilot effort consisted of five Department construction projects ranging in size from $120,000 to $3,900,000 and was operated from January 2002 to April 2002. With the exception of one minor technical incidence, bids for all five projects were received, opened, and awarded entirely on-line. Internet bidding described in Section 4.14 is the next step in the process towards Internet bidding of highway construction contracts.

4.08 Authority to Advertise District Delegation Process

In the 2001/02 Fiscal Year, District Directors were delegated the authority to authorize advertisement of construction contracts for minor projects, major maintenance projects, and major projects up to $1 million. A District has to convert a PS&E package into construction contract documents and secure funding before the District Director can approve the authority to advertise and submit the construction contract to DES-OE for advertisement. One to three weeks can be saved on these low-risk projects dependent on the time the District takes to package the contract, confirm funding, and submit the construction contract to DES-OE.

4.09 Risk Advertising

In 2002, the Department implemented Risk Advertising, which allows a District to advertise a funded contract before all constraints are cleared. The District has to justify and receive concurrence of the constraint owner and approval of the Chief

Engineer before risk advertisement. The constraint has to be cleared two weeks before bid opening or the bid opening is postponed.

4.10 Update of Standard Specifications and Standard Plans in Dual Units/Conversion to English Units

Many local agencies use the Department's Standard Specifications and Standard Plans for their construction contracts. When the Department adopted the metric system, it discontinued updates to the English versions of these documents. To accelerate delivery of local projects, local agencies have requested English unit updates. Upon authorization from management, DES-OE has facilitated the development and publication of the Department's Standard Specifications, Standard Plans and Standard Special Provisions in dual units (metric and English) to expedite delivery by local agencies of projects not on the State highway system. The dual unit Standard Specifications can then be used with either the metric or US Customary standard plans for both metric and US Customary projects by the Department and local agencies.

In 2005, the Department decided to convert back to US Customary (English) Units. DES-OE delivered US Unit Standard Specifications and Standard Plans in May 2006.

4.11 Provide Electronic Access to Project Documentation

Implement electronic access to project documentation by other functions in the department and FHWA to facilitate information sharing and project delivery. Included in this project is automatic e-mail notification to other programs when DES-OE receives a PS&E submittal from the district.

4.12 Purchase of Bid Packages via the Internet

Implement a system to allow purchasing of construction contract bid packages via the Internet by contractors and subcontractors. This effort has been cancelled due to security issues. Bidders are required to purchase bid packages at the bid counter or by FAX.

4.13 Soundwall Specification

The Division of Design and DES-OE worked together to develop a new alternative soundwall Standard Special Provision (SSP) to facilitate the inclusion of alternative soundwalls in PS&E packages.

Designers will find that the new SSP will allow them to consider a variety of pre-approved alternative soundwall types during the design process. This is largely in response to the requests from communities and local and regional partners who are

seeking innovative alternatives to masonry block wall and pre-cast concrete noise barrier structures that have dominated the soundwall market to date.

The new SSP and descriptive information on its utilization can be found by obtaining the September 3, 2004 Memorandum from Structure Design Services & Earthquake Engineering titled "Alternative Soundwall Specifications."

5 ENVIRONMENTAL

5.01 Organizational Change

In January 2001 DEA, which was formerly under the Deputy Director for Planning, was moved under the Deputy Director for Project Delivery. This organizational change has facilitated project delivery and environmental streamlining, because the key functions during the life cycle of a project are now aligned under one Deputy Director.

5.02 "Mare Island Accord"

As a result of one of the Department/Federal Highway Administration (FHWA) partnering initiatives, the Department, the FHWA and the U.S. Environmental Protection Agency (EPA) entered into a formal partnering agreement (Partnership) in July 2000, in which they committed to quarterly meetings of senior management, shared training and outreach, and other activities to foster better interagency relationships and communication. In addition, the Partnership committed to supporting a number of initiatives that would benefit transportation planning, project delivery, and environmental protection, including:

- A pilot study to integrate planning and project development. This pilot was the Merced Partnership for Integrated Planning (PIP), an innovative approach to developing a regional transportation plan that included use of GIS resource layers, early collaborative work with resource agencies, extensive public outreach, and a focus on scenario planning. This project was at the forefront of the national effort to link transportation planning and NEPA. Lessons learned and best practices identified during the Merced PIP will benefit other regions of California.
- Cumulative and Indirect Impact Analysis Work Group, which recently completed guidance to help transportation and resource agency staff address two of the most complex issues in environmental impact analysis. (See Section 1.1.12 below for further discussion.
- Update and improve the 1994 *Memorandum of Understanding – National Environmental Policy Act and Clean Water Act Section 404 Integration Process for Surface Transportation Projects in Arizona, California and Nevada* (NEPA/404 MOU). The new NEPA/404 MOU was executed in spring 2006 (see Section 5.03 below).

The Partnership principals and middle managers meet quarterly to track and report on the status of the initiatives and to discuss emerging problems, issues, opportunities and agency priorities. This has resulted in improved interagency relationships and a better understanding of each agency's mandates and challenges.

5.03 Renegotiation of NEPA/404 Integration Process MOU

In 1994, the Department, the FHWA, the Federal Transit Administration (FTA), the U.S. Army Corps of Engineers (ACOE), the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS) executed a Memorandum of Understanding regarding integration of NEPA and procedures for implementation of Section 404 of the Clean Water Act. Due to changes in the ACOE's Nationwide Permit Program (NWP) as well as organizational changes within FHWA, the signatory agencies agreed in August 2000 to revise the MOU. The primary purpose of the integration process is to enable the ACOE to fulfill its NEPA responsibilities for its Section 404 permit action concurrently with the FHWA/Department NEPA process, through early consultation on project need and purpose, alternatives, and the least environmentally damaging practicable alternative. A working group comprising of representatives of all agencies met regularly to revise the MOU and a final agreement was signed in April 2006.

The new agreement is significantly different from the 1994 MOU and reflects our joint experience over the past decade. The new MOU is more flexible, and is primarily intended for use on those projects that require an Environmental Impact Statement and have more than 5 acres of permanent impacts to waters of the U.S. In addition to raising the threshold for use of the NEPA/404 integration process, the new MOU has softened requirements for agency concurrence and includes an improved process for issue resolution. The new MOU is expected to improve the coordination of the NEPA and Clean Water Act.

5.04 Resource Agency Partnering Agreements

Through a FY 2000 Finance Letter, the Department received an allocation to fund approximately positions in federal and state resource agencies to handle priority work within the transportation program. The Department has executed agreements with these agencies that outline the coordination and review processes and performance measures for this partnering program. In addition, we are providing each agency with information on current and future projects, to help them manage their workload and establish priorities for staff time. Regular coordination meetings with the agencies are providing a forum for the Department and the agency staff to improve consultation and review procedures. The Department regularly monitors agency performance and assesses the need for additional positions, based on workload, and the ability of the agencies to fill additional positions, if available. The program recently expanded to include a position in the California/Nevada Operations

Office of the U.S. Fish and Wildlife Service, to coordinate on “program-level” issues and elevation processes.

5.05 Programmatic Agreements with Resource Agencies

Many environmental regulatory processes allow consultation or permitting on a programmatic basis. Depending on the process and resource type, programmatic approaches can be used for similar types of projects (e.g., the Programmatic CE described below); for similar projects/impacts on particular species (e.g., Programmatic Section 7 consultation under the Federal Endangered Species Act); or to substitute alternative procedures for those specified in regulation (e.g., Programmatic Agreement {PA} for Section 106 of the National Historic Preservation Act). In all cases, negotiation of Programmatic Agreements requires substantial initial effort by the Department, the FHWA, and the regulatory agency. However, this investment has the potential to substantially streamline future project-level consultations, as well as to improve the accuracy of project schedules and estimates because the agreements typically specify study protocols and/or mitigation methodologies.

The Department has received a Programmatic Biological Opinion (Section 7) for the Valley Elderberry Longhorn Beetle and final agreements for the coastal red-legged frog. Additional Programmatic Biological Opinions have been received for the San Joaquin Kit Fox, Upland Species, Giant Garter Snake, and Desert Tortoise. Early efforts are underway to seek a programmatic agreement for Coho Salmon. Additional programmatics are under consideration for the Sierra red-legged frog; various species on the north coast (e.g., marbled murrelet); and southern California species in the coastal sage scrub community. The Department has worked with FHWA and has received delegation to conduct informal Section 7 consultation and inferred presence of endangered species. For historic and archaeological resources, Department staff has developed and is implementing a Programmatic Agreement (PA) for Section 106, in consultation with FHWA and the State Office of Historic Preservation (SHPO). Execution of this PA has streamlined the Section 106 process by reducing the number of individual consultations with the SHPO and is showing immediate successes. The Department will continue to seek opportunities to use programmatic approaches, where the long-term benefits would outweigh the initial cost of developing the agreement. Opportunities for programmatic biological opinions are being explored and may be implemented.

5.06 Mitigation Banking and Process Improvements

Mitigation banking, which involves the purchase of bank "credits" from the bank creator, can help to streamline project delivery by enabling more accurate estimates of mitigation costs, by reducing the time needed for resource agency consultation regarding appropriate mitigation sites, and by moving the mitigation parcel acquisition process off the critical path for a proposed project. A Mitigation Process Improvement Team (Team) has identified changes in Department policies and

procedures that would simplify the Department participation in mitigation banks. The DEA is working with Transportation Planning, Districts 3 and 5, and University partners to develop new methods to plan for mitigation needs and collaborate with resource agencies consistent with new SAFETEA-LU provisions.

5.07 Environmental Impact Statement (EIS) Review Process Improvement

In an effort to improve the quality of NEPA documents and to facilitate the delegation of EIS approval from FHWA Region 9 to the FHWA California Division, in 1998 the Department and FHWA developed a process of concurrent review of EISs. (This process pre-dated the reorganization of FHWA in which regional offices were eliminated and four nationwide resource centers were created, and the approval authority previously held by the regional offices was delegated to division offices.) The process also served as a means for the Department to review and comment on the quality of district environmental documents, a step that had been eliminated in 1988 when the authority to approve environmental documents was delegated to the districts. The process was reexamined to identify additional improvements and modified in November 2001 and again in March 2003. Annotated outlines have been posted for joint NEPA/CEQA documents. The net effect has been an increase in quality and shorter review times.

5.08 Consistent Approach to Well-Defined Project Need and Purpose

A good purpose and need can be an important means of avoiding ill-conceived projects. It is highly desirable to have a consistent purpose and need concept throughout, keeping in mind that the level of detail increases as the project concept is developed. A good purpose and need helps to prioritize projects for programming at the Project Initiation Document (PID) stage. The purpose and need is critical for defining a project's scope, formulating which alternatives to study, evaluating alternatives and achieving environmental streamlining. The purpose and need can also help in identifying potential context-sensitive solutions.

In early 2002, the Department established an intra-department, inter-division team to examine the process by which a project's purpose and need are established and to recommend measures to ensure that projects' purpose and need statements are well-reasoned and consistent from the earliest planning stages through the environmental analysis and project approval stage. The team's recommendations have been finalized and a Deputy Directive addressing Purpose and Need has been implemented. In addition, resources on developing purpose and need statements have been posted online for use by the Districts. Training on purpose and need has been jointly developed with Design and has been provided to Design Seniors.

5.09 Quality Control Plans

The Department has developed and implemented Environmental Document Quality Control Plans for each District or Region to verify that each environmental document has received the appropriate level of internal review prior to its submittal to FHWA. Implementation of formal quality control/quality assurance review has improved environmental document quality. This accelerates project delivery by reducing FHWA environmental document review time. In Summer 2006, the QC/QA process has undergone an independent review by a consultant and recommendations for process improvements to achieve better QC/QA are anticipated.

5.10 Preliminary Environmental Assessment Report

In December 2001, the Department began to require the preparation of a Preliminary Environmental Assessment Report (PEAR) to support the Project Study Report – Project Development Support (PSR-PDS) for all projects on the State Highway System requiring an environmental document (EIS/EIR and ND/FONSI). The PEAR defines the scope of the subsequent environmental document by identifying the known environmental issues and constraints (using site visits and the improved scoping tools described in Item 8.1.1) and informs the development of the work plan (cost and schedule) for the environmental component of the project. The cost estimates for the preparation of the environmental studies and NEPA/CEQA document and proposed schedule thus allow the project development support element to be programmed more accurately. The Department expects that well scoped projects with a realistic environmental support component, schedule, and appropriate funding are better projects and will be approved faster. Use of the PEAR has been mandated for all districts and regions. A statewide PEAR tool is currently under development to facilitate uniform statewide preliminary environmental information development and use during the PID process. Developing better information on location of environmental resources of concern during the PID process will make completion of Project Approval/Environmental Document (PA&ED) more efficient. DEA, Planning and other functional units have been working to better resource PID efforts, to yield betters PIDs (e.g. PEARs). In addition, the PEAR handbook is undergoing revisions to address changes and improvements in the Department's environmental scoping process.

5.11 Multi-Agency Working Group to Address Assessment of Cumulative Impacts

Cumulative impact is defined as the impact on the environment, which results from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes them. Cumulative analysis is a requirement of NEPA, CEQA, and the Endangered Species Act; definitions do not match from one set of regulations to the next. In California, with steadily increasing population leading to fragmented and

shrinking habitat, this analysis has become both increasingly important and increasingly contentious over the last few years.

In 2004, the Department completed an interagency pilot project, as part of the Merced Partnership in Planning, to increase mutual understanding of agency mission, jurisdiction, definitions and requirements as they relate to cumulative impact analysis. Key players included the Department, EPA, U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and the local land use and transportation agencies. In June 2005, the Department, FHWA, and U.S. EPA completed development of acceptable guidance for cumulative and indirect impact analysis. Guidance on indirect impacts will be posted online in July 2006. Together, these measures are designed to increase predictability of resource agency response to the analysis, improve delivery planning, and streamline project delivery.

5.12 Annotated Outlines for Environmental Documents and Standard Formats for Biological Studies

Department staff from Headquarters and districts/regions statewide formed a team that has developed annotated outlines for environmental documents. This effort has served a number of purposes: to improve the quality of the content of environmental documents, to facilitate reviews by state and federal resource, and regulatory agencies by providing a consistent format; to promote statewide consistency within the Department in both preparing the documents and in direction given to consultants preparing environmental documents.

The Department also formed a team of staff biologists to develop standardized formats for the biological technical reports that support the environmental document and Section 7 consultation.

The Department believes that standardized documents will expedite project review and approval since the review agencies will become familiar with the format and know where to expect to find certain types of information. In addition, a standardized format will improve the organization of environmental documents by allowing context, impacts, and mitigation of each issue to be addressed together in one section, and by decreasing the potential for internal contradictions that can result from issues being discussed in a number of sections.

5.13 Disposal Site Quality Team

The Disposal Site Quality Team was formed in July 2000 to address the Department and FHWA policies on disposal sites. There has been controversy regarding responsibility for compliance with CEQA, NEPA, and other state and federal regulations that may apply to these areas during the project development process and throughout construction. Some resource agencies are requiring identification and environmental “clearance” of disposal sites prior to issuance of permits or other agreements, such as biological opinions for sensitive species impacts, causing

interagency conflicts, project delays, and unnecessary expenditures of time and money. The team developed guidance to clarify responsibility for compliance with environmental requirements pertaining to disposal sites. This guidance also implemented policy on designation of optional disposal sites.

5.14 Standard Environmental Reference

The Department has developed a Standard Environmental Reference (SER) for federal and state requirements for use by the Department, and for federal-aid projects, by local agencies. The project is the result of a recommendation of a process improvement team examining means to improve local agency transportation project delivery; however, it shall be used by Department staff as the guidance for preparing and processing its own environmental documentation. An interagency team represented by the FHWA, the Department, local agencies, and environmental consultants has developed the SER. Publication of the SER began in spring 2002 and is essentially completed, however, refinements and additional information is being added continuously. The SER provides guidance on the preparation of environmental documents to comply with NEPA, CEQA and other environmental laws, regulations, and Executive Orders, and links the user, via the Internet, to sites containing more detailed guidance, regulations, and statutes. The SER also links users to detailed guidance on the preparation of the technical reports, which support the environmental documents. The intent of the SER is to ensure that State and local agency projects comply with federal and State environmental requirements in a consistent manner, serve as an education tool, and assist local agencies in consultant scopes of work.

5.15 Programmatic Categorical Exclusion

FHWA regulations to implement NEPA (23 CFR 771) include a list of project types determined normally to have no significant environmental impact, but which require FHWA verification that the particular project meets the exclusion criteria. Since 1990, the Department and FHWA have had an agreement defining a set of conditions for programmatic processing of certain NEPA categorical exclusions. The agreement programmatically approves the project as a NEPA categorical exclusion as long as certain criteria are met. “Programmatic CEs” require the same documentation as a regular categorical exclusion but do not require review and approval by FHWA staff. In 2003, the Department and FHWA renegotiated a new programmatic categorical exclusion agreement, which includes a broader range of projects and expands the programmatic approach.

6 LOCAL ASSISTANCE

6.01 Increased Training

The Division of Local Assistance's (DLA) existing training program is constantly being updated and revised to help local agencies with project delivery. The Federal-Aid Series courses have been updated to reflect new SAFETEA-LU programs and procedures, and new State Disadvantaged Business Enterprise (DBE) policies. The Resident Engineer Academy has been updated, and additional sessions are being offered in more locations throughout the state. A new course has been added on the new Load and Resistance Factor Design (LRFD) specification for structures. The introductory course on systems engineering (ITS) course has been updated. In addition, Distance Learning has been implemented. Several courses on a variety of subjects are now available online, and several more are under development.

A training advisory team continues to meet for the purpose of reviewing the existing training curriculum and recommending changes or new classes. The Team has representatives from the DLA, Regional Transportation Planning Agencies (RTPA), and local agencies, and meets several times each year. Training continues to be made available through the Cooperative Training Assistance Program (CTAP) and Local Technical Assistance Program (LTAP).

A Local Assistance Academy continues to train new DLA employees. Work continues with various Headquarters Divisions to include local agencies in Capital Program Skills Development (CPSD) courses and academies, such as the Right of Way Academy, Bridge Design Academy, Environmental courses, New Technology and Research-Intelligent Transportation Systems (ITS) courses, and Design courses.

6.02 Increased Technical Assistance

The DLA has added staff in headquarters and the districts to accelerate project review and approval, for local agencies seeking reimbursement through various federal or state funding programs. Department staff is now available to provide technical and advisory support to local agencies in the following seven areas: 1) Environmental, 2) Design, 3) Construction Management with District Construction Contract Monitoring, 4) Project Management Support, 5) Preliminary Engineering, 6) Hydraulics, and 7) Right of Way. The Department will consider reimbursable work requests from local agencies on a case-by-case basis.

6.03 Simplified Agreement Process

A simplified agreement process for local agency projects to receive federal funds was implemented in 2001. Prior to this process, a separate Program Supplement Agreements (PSA) was required for each phase of the project, namely Preliminary Engineering, Right of Way, and Construction. Under the simplified agreement

process, a PSA is needed only for the first phase of the project involving federal funds. Subsequent phases of the project are included in the agreement by the approval of a FNM 76 and finance letter.

The DLA has also provided a "Sample Blanket Resolution" to the local agencies. By adopting this blanket resolution, the local agency does not need to receive a specific resolution from its Council or Board for the execution of each PSA. This has eliminated the need to wait for the Council or Board to meet every time a PSA needs to be executed.

6.04 Delegated Allocation Authority

The California Transportation Commission (CTC) has delegated authority to the Department to approve allocations for certain categories of local projects funded with subvention federal and state funds. At this time delegated authority for certain categories programmed in the STIP are not available to the Department.

6.05 Reduced Number of Pre-Award Audits Requirements

In 2000, the DLA issued a Local Programs Procedure (LPP 00-05) that eliminated the pre-award audit requirement for consultant contracts under $250,000 for all federal and state-only funded Local Assistance projects. It also increased the current service contract threshold from $25,000 to $100,000. Increasing the pre-award audit threshold to $250,000 resulted in fewer consultant contracts being audited, and accelerated project delivery on projects under $250,000 by a minimum of 30 days. The savings in labor, by not auditing contracts under $250,000, was used to accelerate delivery of other projects.

6.06 Use It or Lose It

Implementation of the "use it or lose it" provisions provided a significant incentive for on-time delivery of locally designated, federally funded RSTP/CMAQ projects. This legislation was enacted to provide a disciplined, structured and accountable environment for the delivery of local RSTP and CMAQ projects. Specifically, the legislation states that RSTP and CMAQ funds not obligated within the first three years of federal eligibility are subject to redirection by the CTC in the fourth year. The Department submits progress reports on impacted fund balances to the CTC. Local agencies may check their impacted fund balances each month online at: http://www.dot.ca.gov/hq/LocalPrograms/.

6.07 Manuals and Guidelines on CD ROM/DVD

Local Assistance publications, previously available on CD, are now available on DVD from the Department Publications Unit. The CD/DVD acts as a one-stop shop

for information and promotes better access to helpful information for local project delivery. The CD/DVD provides local agencies and their consultants with fast and powerful access to essential information, which makes it useful as a starter kit for new staff. Local project sponsors will find the CD/DVD full of manuals, handbooks, and other publications that address procedures, practices, policies, and standards. The Local Assistance Procedures Manual, Local Assistance Guidelines, Local Assistance Guidebooks, the Department's Standard Plans and Specifications and all previously released Local Program Procedures (LPPs) are some of the publications included on the CD/DVD. Most of these publications are posted on the Department's Website, but the CD/DVD enables PC users to find information without requiring Internet access or performing an on-line search. The CD/DVD is part of an ongoing effort to provide more "user-friendly" manuals for local assistance project delivery.

6.08 Improved Program Management Direction and Communications

The Local Assistance Management Board (Division Chiefs and Program Manager) and Council (DLA Engineers and DLA Office Chiefs), established in 1999 to 1) identify issues, 2) recommend corrective actions to help local agencies achieve efficient, effective, and timely delivery of transportation projects, and 3) strengthen the state/local partnership merged with the Planning and Local Assistance Network (PLAN). The PLAN, comprised of the Deputy Director for Planning and Modal Programs, Planning and Modal Program Division Chiefs, District Planning Deputies, and several Supervising Transportation Planners, meet three times a year to discuss matters of planning and project delivery. A Hot Topics Team, comprised of the Deputy Director for Planning, District Planning Directors and HQ Technical staff (as necessary), convene in off months to discuss issues affecting project delivery. Sub-teams provide issue resolution and communicate resolution techniques to HQ and District staff. The Deputy for Planning and Modal Programs also meets one-on-one with each District Planning Deputy to further engage each district and to enhance communication. This collaborative/communicative management style provides for accelerated project delivery by maintaining an open and direct line of communication and actively pursuing issue resolution.

A Local Assistance Program Strategic Plan was developed in 1999. The plan includes Mission, Vision, Goals, Objectives, Strategies and Performance Measure areas, which target specifics in delivery and supporting areas.

6.09 Electronic Forms (Forms PLUS)

Currently, there are a large number of forms that local agencies must complete when submitting a request to receive funding. Electronic versions of these forms have been developed using a File Maker Pro application. In 2006, the forms were upgraded to FileMaker 7. More than 200 forms, needed to expedite Local Assistance Project Delivery, have been provided via CD and DVD to over 300+ local agencies. Users can download the electronic forms from the DLA website. The

intended results are to reduce the time and effort needed by users to complete necessary forms, and to eliminate redundant data entries.

6.10 Expedite Reimbursements

The Department offers an Electronic Fund Transfer (EFT) option to local agencies. EFT expedites reimbursements to local agencies through direct deposit to their designated banking account. As of December 2004, of the 733 eligible local agencies, 208 vendors (28.4%) are currently participating in the EFT program.

6.11 Standard Environmental Reference

The DLA and the Division of Environmental Analysis (DEA) have developed Standard Environmental Reference (SER) to provide guidance on compliance with NEPA and related federal laws, regulations, and policies. The SER, which contains links to applicable legislation and other relevant supporting data, is available on-line for statewide use by local agencies, the Department, and FHWA.

6.12 Improved Training

The DLA continues to refine and expand the training program and improve training to local agencies by more strategically leveraging training resources, providing just-in-time and distance learning training mechanisms where applicable, and working with Headquarters Divisions to increase the number of local agencies attending Department CPSD training.

7 PROJECT MANAGEMENT

7.01 Project Charter Policy

A charter documents the agreement between the project sponsor and the project manager over the key elements of a project. It helps the project manager guide the project team efficiently through the project development process. It is the first project management document in the suite of project management plans used to identify and control a project's scope, schedule and budget. It is also used to identify and meet customer expectations. The charter process is intended to help manage project scope and is intended to reduce rework by eliminating unnecessary scope changes. Included with the charter policy is a tool called the Innovative Checklist, which is intended as a resource for project managers and teams to identify innovative practices that they can apply to their project.

The charter policy is available at:
http://pm.dot.ca.gov/ProjectOffice/ProcessGuidance_Directives/PM_MemosDirectives/PMD007_Rev.pdf.

7.02 Capital Project Skill Development Plan

The Capital Project Skill Development (CPSD) plan provides the Department's capital project staff with the knowledge and skills needed to produce their deliverables. The CPSD plan was developed and is managed by a team that includes representatives from the Divisions of:

- Construction
- Design
- Engineering Services
- Environmental
- Project Management
- Right of Way
- Traffic Operations

These divisions are responsible to develop and provide technical training to the nearly 10,000 capital project staff statewide. In addition, CPSD provides discretionary training funds to the districts for securing courses in software, soft skills, and management. Districts throughout the state have been provided the resources and are responsible to ensure student participation in this training. The current annual goal is to provide approximately 200,000 hours of student time. An on-line course catalog is available in the Learning Management System (LMS) portion of Staff Central. Additional information and on-line course catalog for CPSD is available at:
http://pd.dot.ca.gov/pm/cpsd/index.asp

7.03 Use of Flexible Resources to Deliver Projects

With the passage of Proposition 35 in November 2000, the Department has increased its effort to engage consultant resources in the delivery of Capital Projects. Consultant Services units are implemented in every district and region. The Department is using on-call contracts to alleviate delivery bottlenecks and project-specific contracts to augment project delivery efforts.

Additional information about consultant services unit is available at:
http://pd.dot.ca.gov/pm/ProjectOffice/ProcessGuidance_Directives/PM_MemosDirectives/PMD008.pdf

7.04 Revised Milestone Standard

In order to better plan and monitor the progress of all State Transportation Improvement Program (STIP) and State Highway Operation and Protection Program (SHOPP) projects during the environmental phase, two new milestones were introduced to the Department's Work Breakdown Structure (WBS). These milestones are Notice of Preparation (NOP) for the Environmental Information Report (EIR) documents under the California Environmental Quality Act (CEQA) and Notice of Intent (NOI) for Environmental Information Statement (EIS) documents

under the National Environmental Policy Act (NEPA). In addition to the reporting requirement to the CTC, the Division of Project Management will also be monitoring other internal milestones during PA&ED on a quarterly basis.

Additional guidance available at:
http://pd.dot.ca.gov/pm/ProjectOffice/ProcessGuidance_Directives/PM_MemosDirectives/RevisedCapitalProjectMilestoneStandards.pdf

7.05 Project Management Professional Certification

The Project Management Professional (PMP) certification is an industry standard credential for project managers. Certification ensures that project managers understand the foundations, terminology and processes in project management. The Division of Project Management supports project managers in pursuit of certification by providing training and streamlining the application process. Currently the number of Department's PMP stands over 250 statewide.

7.06 Lessons Learned Database

The Lessons Learned Database is a tool to capture the lessons learned during the course of a project. Its purpose is to benefit Department users from previous lessons, and to continuously improve and correct Department documents (manuals, handbooks, etc) by channeling the lessons learned information to the appropriate person(s). All project team members are encouraged to record the problems they have encountered during project delivery, and to provide their suggestions and solutions for resolving those problems. The tool will allow users to search for information based on various parameters.

The Lessons Learned Database can be accessed at:
http://pd.dot.ca.gov/pm/PMPI/LessonsLearned/index.asp

7.07 Project Close Out

The Project Close Out tool documents the various steps needed to close out each component (phase) of the project. Project Managers need to close out each component (phase) of the project in a formal and consistent manner. Proper Project Close-Out process should provide:

- Systematic documentation and archive of project records.
- The capture of Lessons Learned during project execution, so that these lessons can be used to improve future projects. A formal process would be used to amend guidance and manuals.
- Formal acceptance and delivery of the close-out products.

A documented Close Out task provides a brief description of the task, the procedure that needs to be followed, the roles of various individuals involved, a flowchart of the process, and links to further documents.

The Close Out tool can be accessed at:
http://pd.dot.ca.gov/pm/ProjectOffice/ProcessGuidance_Directives/Closeout.asp

7.08 Project Communication Handbook

Published in February 2003, the Project Communication Handbook provides an overview of the basic concepts and processes that guide project communication in the Department. The purpose of the Project Communication Handbook is to assist the project team in identifying internal and external stakeholders, and to enhance communication among all parties involved in Project Delivery. The Project Communication Handbook includes the processes for completing project communication plans and conflict management strategies.

The Project Communication Handbook and templates for project communication planning can be downloaded from the Project Communication Planning website at:
http://www.dot.ca.gov/hq/projmgmt/guidance_pchb.htm

7.09 Project Management Certificate Program

The Department's Project Management Certificate program provides the fundamentals of Project Management as they are applied to the delivery of the Capital Projects and lays a foundation for Project Management Professional (PMP) industry certification. The program is part of the Department's Capital Project Skill Development effort. The certificate program consists of eight courses (six on-line and two live class room delivery), and is offered in partnership with California State University, Sacramento. Currently the number of graduates of this program stands at over 285 statewide, with more than 250 others in progress.

7.10 Project Delivery Contracts

Effective with the 2005/06 fiscal year, Project Delivery instituted delivery agreements. These agreements are signed documents between the Director of the Department and each District Director. Agreements are based on the Ready-to-List (RTL) milestone and programmed capital value for each project to be delivered in the fiscal year. The status of these projects is updated weekly for reporting and monitoring purposes. The contracts have effectively reinforced the importance of achieving major milestones according to the commitments made to the project sponsor(s). The Delivery Contracts can be accessed through this website:
http://pd.dot.ca.gov/pm/ProjectOffice/ContractsForDelivery/ContractsHome.asp

7.11 Development and Use of Risk Management Plans for Capital Projects

Project risk management is the systematic process of identifying, analyzing, and responding to project risk. Risk management training is currently being delivered to project and functional managers across the state. The Statewide Risk Management Implementation Team has finalized an implementation plan for risk management, which builds upon the Department's Risk Management Handbook. On March 30, 2004, a memo titled "Implementation of Project Risk Management in Project Delivery" was sent to all District Directors from Mike Leonardo, Acting Chief Engineer. A second memo was sent to all District Division Chiefs in Program/Project Management from Carl Haack, Chief, Division of Project Management. This memo provides guidance, tools, and support for implementing Risk Management. Project Management Coordinators are working in cooperation with the Single Focal Points and project managers to increase the use of risk management planning in all of the Districts. The risk management performance measures are: Percent of major projects with risk management plans at Project Initiation Document (PID) and percent of Project Change Requests (PCRs) due to unidentified risks.

8 RIGHT OF WAY AND LAND SURVEYS

8.01 One-Call Acquisition

The Division of Right of Way and Land Surveys (Right of Way) has implemented a One-Call Acquisition Process, which allows a Right of Way Agent to issue a Draft Purchase Order (DPO) (check) on the first call for low value parcels ($2,500 or less) and conclude the acquisition transaction on the spot with immediate payment. This process was developed in conjunction with Accounting, Audits, Right of Way, Department of Finance, and Board of Control. This has allowed immediate payment to the property owner where the normal payment process could take at least one month. This not only improved customer service, but also reduced the number of field trips by the Right of Way Agent.

8.02 Single Agent Appraise/Acquire Process

Right of Way has implemented a Single Agent Appraise/Acquire Process which permits a single Right of Way Agent to appraise, acquire and relocate personal property on parcels that are valued at $10,000 or less. Prior to receiving a policy exception from the Federal Highway Administration (FHWA), the property owner had to work with three different agents who were each responsible for a single function. This process eliminates multiple trips to the property, saves both the agent and the owner's time in providing information about the property and establishing rapport at each meeting.

See 8.25 for status of request to FHWA to increase from $10,000 to $25,000.

8.03 Streamlined Process for Parcels < $10,000

In lieu of a regular, full appraisal, Right of Way obtained a waiver from FHWA for less documentation for parcels having an estimated value of $10,000 or less. Such parcels account for more than 50% of all parcels acquired by the Department.

Three valuation formats, as alternatives to the full narrative appraisal, have been established in an effort to reduce the time required to value lower valued parcels. In each of these three formats, substance and brevity should be the norm. The amount of analysis and degree of documentation should be in proportion to the appraisal problem and valuation involved.

Non-complex parcel appraisals of $10,000 or less may be formatted utilizing either the memorandum appraisal format, or a very succinct narrative appraisal.

Additionally, Code of Federal Regulations (49 CFR 24.102) provides that an appraisal is not required for parcels estimated at $10,000 or less. The valuation problem must be uncomplicated, and is documented in a Waiver Valuation (formerly known as a Determination of Just Compensation). Because a Waiver of Valuation is not an appraisal, it cannot be used to obtain Resolutions of Necessity, or establish the amount for deposit in a condemnation proceeding.

Waiver of Valuations of $2,500 or less may be documented with a diary entry. The diary entry should state the basis of the value conclusion and include a photograph of the subject.

8.04 Resolution of Necessities by Locals

The Department is the responsible agency for obtaining Resolutions of Necessity for all projects on the state highway system, irrespective of whom is the lead agency or who does the right of way work. The California Transportation Commission (CTC) is the State's governing body for adopting Resolutions of Necessity. However, statute provides for specific authorization on a project-by-project basis to allow a County Board of Supervisors or City Councils, in lieu of the CTC, to hear Resolutions of Necessities, upon written approval by the Department. The guidelines for this exception and approval process were initially outlined in Department Memorandum dated December 10, 2001, and clarifying memorandums were subsequently released.

8.05 Right of Way Acquisition prior to Environmental Approval

Right of Way appraisals may be completed during the Preliminary Right of Way Phase of the project (see Planning & Management Functional File Memo #94-1 and Right of Way Appraisal Manual Section 7.01.06.00). One overriding criteria is that the preferred alternative must have been made public and federal funds must be pre-authorized (see Right of Way Manual 3.05.00.00).

Acquisitions can be completed using State only funding under specific guidelines (see Acquisition Reference File 00-1). Federal regulations permit early acquisitions without federal participation; however; they do allow the value of a parcel acquired or donated lands to be used as a soft match for the non-federal portion of a federal aid project.

Right of Way may acquire the property prior to environmental approval if the project is non-controversial and the project has been programmed. All laws, regulations, and policies including Uniform Relocation Assistance and Real Properties Acquisition Policies Act, must be followed throughout the acquisition process. The Right of Way Division Chief shall approve a Letter of Qualification (LOQ) documenting how the project meets the criteria set forth in the guidelines. Documentation will be maintained in the project file. The LOQ shall contain signatures of the Region/District Division Chiefs for Project Development, Environmental Planning, and Right of Way, indicating their concurrence.

On November 2, 2004, the “Alternatives for Right of Way Acquisition Prior to Environmental Approval for Local Agency Projects on the State Highway System” were issued and memorandum, including the alternative of “Early Acquisition” under specified criteria.

8.06 Streamlined Positive Location (Potholing) Process

The streamlined utility positive location process allows the Department to take full control in identifying the exact location of underground utilities. The Department has developed a process to contract out the positive location work to keep projects on schedule. Timely project delivery is further enhanced by positively locating subsurface utility facilities early in the project development phase which results in early plan development and possibly minimize or avoiding utility relocations. The positive location process is also used to meet the requirements of the High/Low Risk Policy.

8.07 Right of Way Project Delivery Team

Use of Right of Way Project Delivery Team to deliver Right of Way products/services on non-complex small projects has proven to be one effective option to accelerate and enhance project delivery. The Project Delivery Team concept utilizes full-service Right of Way project delivery teams rather than a functional organization. These teams are responsible for delivering all Right of Way products and services necessary to advertise and award projects. The team concept results in timesaving because there are fewer "handoffs" from one functional organization to another. The team owns a project from the earliest estimate to final closeout. Team members gain a broader perspective of project delivery and tend to "own" projects rather than having a single functional perspective. Team members become exposed to many Right of Way skill areas without having to formally rotate. However, one important

factor when considering use of this option is that the team approach precludes development of specialized expertise required for more complex projects.

8.08 Quality Enhancement Joint Review Process

Quality Enhancement Joint Review (QEJR) process identifies functional readiness gaps and Best Business Practices. This process is intended to improve the processes established to provide quality products or services. Every fiscal year a plan is established outlining what functions to review for the following fiscal year. Critical monitoring areas are developed prior to the review and shared with the Region/District Managers. To the extent possible considering budget constraints, this review is conducted using a team approach comprised of a headquarters functional senior as the team leader, a visiting Region/District agent and the hosting Region/District functional senior. In addition, an FHWA representative may participate, as may the Quality Enhancement Joint Review Project Manager. The teams are charged with looking at the functional strengths, areas for development, projected workloads and staffing needs, training needs to deliver the work products, and Best Business Practices. This process has worked extremely well, has opened up communication channels and has been a good forum to share knowledge/expertise statewide.

8.09 Right of Way Intranet Site

The Right of Way Intranet site is being used to disseminate Best Business Practices and other useful information. Right of Way utilizes its Region/District Quality Enhancement Joint Review (QEJR) process to examine processes and procedures to ensure compliance with applicable statutes, regulations and policies. A major by-product of these reviews is the compilation of "Best Business Practices." A web page that allows others to view these Best Business Practices is sorted by function, subject, and Region/District. This site also allows users to submit Best Business Practices and to query others regarding unique Right of Way situations. This site provides a useful method for communicating throughout the Right of Way Division.

8.10 Utility Design Activities Prior to Environmental Approval

A utility company may commence utility design activities, prior to the approval of the Environmental document with prior Headquarters approval. A district/region's request for approval to order utility design activities, prior to approval of the environmental document may be submitted only upon completion of the environmental studies and the selection of the preferred alternative for the project. The guidelines for this exception and approval process are outlined in Utility Reference File No. 02-01.

8.11 Increased Awareness of Right of Way Activities

Right of Way developed and successfully delivered "Right of Way and You" training statewide to non-right of way personnel. Several joint Management Board meetings have been held with other Divisions including Design and Environmental. A "Partial Acquisition Appraisals for Attorneys" course has been developed and successfully delivered. Right of Way also participates in academies sponsored by other Divisions, including the Local Assistance Academy.

8.12 Continuous Advertising for Appraisal Consultants

In coordination with Division of Procurement and Contracts (DPAC) and implemented by memorandum dated April 19, 2002, the continuous advertising for appraisal consultants has been established. This accelerated the process for entering into personal service contracts for "in lieu of staff" appraisals for specialized services, including but not limited to, machinery/equipment, and loss of goodwill and/or railroad valuations. The services may be contracted under the specific and limited conditions of Government Code Section 19130.

8.13 Improved Certificate of Sufficiency Process

In coordination with Divisions of Environmental Analysis and Design, Right of Way and Land Surveys has implemented an improved process for coordination and approval of the Certificate of Sufficiency, including use of the "Hazardous Substance Disclosure Document" by Environmental.

8.14 Statewide A&E On-Call Surveying Contracts

In 2001, the Office of Geometronics established two statewide A&E on-call contracts for professional and technical surveying and right of way engineering services. These on-call contracts allow the districts/regions to obtain consultant services to manage their workload when other resources don't exist. In 2004, contract management responsibilities were transferred to the North Region and District 7.

8.15 Vangarde Remote Surveying System

Accurate and timely pavement elevation surveys are critical data for transportation engineers to design pavement solutions, compute quantities, correct roadway deformations, widen roadways and ensure proper drainage. The Vangarde System (VG) was deployed to improve the safety and reliability of pavement elevation surveying operations. VG has enhanced safety for transportation workers and the traveling public and improved mobility by allowing the surveyor to collect data remotely from a vehicle located away from traffic.

8.16 Specifications for Surveying on Superstructures

A multi-disciplinary team developed recommendations and revisions to the Department's Surveys Manual to provide uniform and consistent support statewide to the Structure Representative in the form of construction stakes on the superstructure. Management approved the changes in September 2004. The manual change addresses the placement of construction stakes on the superstructure of a bridge to control the building of the bridge. The changes describe the responsibilities and communications between Surveys, the Structure Representative, and the Resident Engineer, including safety. The changes also include a reference to traffic control requirements.

8.17 Right of Way Engineering Mapping Standards

Right of Way has updated Right of Way Appraisal Map standards. The new guidelines and procedures were developed from customer input and have been posted on the Office of Land Surveys website and incorporated into the Plans Preparation Manual. The standards promote statewide uniformity and consistency of mapping products produced by in-house staff, consultants and local agencies on all state transportation improvement projects. Previously, Right of Way mapping products varied from district to district.

8.18 Utility Relocation Master Contracts

Jointly with the major utility companies, Right of Way developed a single Master Contract that shares the cost of utility relocations for freeway projects. The new Contract provides an equitable and uniform single standard of cost apportionment eliminates interpretation problems and reduces staff time in the preparation of the Report of Investigation, resulting in accelerated project delivery.

8.19 Letter/Notice to Property Owners for Environmental Study Entry

In selected situations where entry onto private property for environmental study purposes does not interfere with the property owner's use, and is clearly non-invasive in nature, such as walk-on visual inspections, taking photographs, etc., in lieu of obtaining written consent, Right of Way Managers may elect to send an informational letter to the property owner. The letter informs the owner of the purpose and impact of such entry or has specific instructions they wish to have observed during such entry (personal contact before entering, closing livestock gates, instructions concerning dogs, etc.). Where appropriate this tool can streamline the process and safe project delivery cost and time.

8.20 Joint Training for R/W Utility Coordinators and District Local Assistance Engineers

In coordination with the Division of Local Assistance, a training/work session for all R/W Utility Coordinators and District Local Assistance Engineers (DLAEs) was presented to evaluate, discuss and clarify issues/questions regarding utility relocation procedures on locally funded federal-aid projects. Coordination and communication will continue to be a priority between the two Divisions, including joint training/work sessions.

8.21 Assuming Greater Role in Delivery of Training to Local Public Agencies and Consultants

In coordination with the Division of Local Assistance and University of California at Berkeley, the Division of Right of Way has assumed responsibility for updating and delivering the course, "Right of Way and Utility Requirements for Federal-Aid Projects." This recommendation will foster communication between Right of Way and the target audience, i.e., our Local Agency partners and their consultants; and in addition will facilitate compliance with federal/state requirements by ensuring the accuracy of the material presented.

8.22 Quality Management in Right of Way and Land Surveys

Right of Way is developing quality management components for the right of way phase of project delivery for inclusion in the "Project Delivery Quality Management" guide for transportation projects.

8.23 Improve Accuracy in Right of Way Estimates

Ensure the accuracy of R/W estimates by implementing the recommendations of the R/W Process Improvement Team for R/W Work Plans, resourcing and Data Sheets.

Cost Estimate Map Toolbox posted on Division website at:
http://pd.dot.ca.gov/row/officeds/landsurveys/Cost_estimate_mapping.htm

9 TRANSPORTATION PLANNING

9.01 Establishment of the Project Study Report – Project Development Support Document

The Department and the California Transportation Commission (CTC) have established and adopted new guidelines for an expedited Project Study Report (PSR) entitled the Project Study Report – Project Development Support (PSR-PDS). The PSR-PDS meets the needs of SB 45 by allowing projects to be programmed by

component and by expediting the PSR process. The traditional PSR required that the scope, cost and schedule of the entire project be determined and set within the document. This lent itself to cost and schedule delays and scope changes. The new PSR-PDS recognizes that until the environmental studies have been completed, the preferred project alignment and specific project features cannot accurately be determined. The PSR-PDS programs support cost only through Project Approval and Environmental Document phase (PA&ED) with a ballpark figure given for the total project cost. The PSR-PDS in conjunction with Project Change Control (see Section 3 - Design) encourages that all information and studies that are required to make a good project selection are known up front, prior to programming the project through construction.

9.02 Early Environmental Efforts/Geographic Information Systems

Early environmental scan efforts also assist in speeding project delivery by early identification at the system planning and Regional Transportation Plan (RTP) level of "fatal flaw" alternatives or locations for environmental purposes or community resistance. (See also Section 5 - Environmental.)

The Department has several new Geographic Information System (GIS) environmental scan efforts for early identification of protected species and other environmental factors. In both system and regional planning, alternatives with major environmental implications are identified early on and evaluated for proceeding/not proceeding with an alternative or alignment.

The Department has also developed a GIS tool to display planned and programmed projects. The California Transportation Investment System GIS tool provides a comprehensive inventory of projects (highway, local, rail, airport, bicycle, pedestrian, and transit) planned by State and regional agencies over the next 20 years. This sketch level GIS tool is intended to inform and to improve decision making by assisting the Department and regional planning agencies in identifying planned improvements on the transportation system and providing opportunities for improved timing and coordination of projects.

It is also recognized that these efforts will need to be done in concert with the much-needed GIS efforts of the resource agencies and transit operators.

10 TRANSPORTATION PROGRAMMING

10.01 Delegated Authority

The Division of Transportation Programming (Programming) is actively pursuing enhancing/expanding its delegated authority by the California Transportation Commission (CTC) to take actions that will accelerate project delivery. The Department has delegated authority for project allocations over the Safety and Rehabilitation categories of the State Highway Operation and Protection Program (SHOPP). These delegations save an average of 30 days per project. Currently due to the state’s financial situation, the delegation for rehabilitation is suspended

and only the safety delegation remains in effect. The delegation only applies to safety projects in the approved SHOPP and not to safety projects that are amended into the SHOPP.

10.02 Improved Scoping and Scheduling

Programming in coordination with the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) has developed guidelines and criteria for the use of Administrative Amendments. Certain types of changes to a project (such as increasing the total cost within the allowable limits and moving projects within the Federal Statewide Transportation Improvement Program (FSTIP) triennial period) can be accommodated relatively quickly as an Administrative Amendment, which does not require federal approval for the changes to be effective in the FSTIP. The Department has delegated authority from FHWA/FTA to approve these changes in the FSTIP. In addition, the Expedited Project Selection Process allows the region to advance projects within the triennial period of the FSTIP without processing an FTIP amendment.

Programming participates in the California Federal Programming Group (CFPG) forum (that also includes Metropolitan Planning Organizations (MPOs) in the sate, FHWA, FTA and Districts) every six weeks to discuss various issues related to federal programming.

10.03 New Developments in Information Technology

Programming has improved their existing programming database to serve as a multi-agency joint use project database system. This revised system is the California Transportation Improvement Program System (CTIPS), and contains project listings for the State Transportation Improvement Program (STIP), SHOPP and the FSTIP. The Transportation Congestion Relief Program (TCRP) and the Minor Program will be added to the database as funding allows. The use of this tool and the advancements in Information Technology greatly improves the ability for the Department, FHWA, FTA and local agencies to plan, program and monitor their projects. This system and its proposed future improvements will increase efficiency and assist in streamlining the entire programming process resulting in enhanced program/project delivery.

PROPOSED IMPROVEMENTS

1 BUDGETS

1.03 Upgrade the Federal-aid Data System (FADS)

The current Federal Aid Data System (FADS) is written in RAMIS and resides on a TS1 mainframe account. The system is very limited in scope, is not user friendly, and has minimal reporting capability. This is a critical system due to the fact that the Department transmits data to the Federal Highway Administration (FHWA) in Washington D.C. every morning requesting obligation of federal funds and for executing State-Federal agreements for federal fund reimbursement for State and Local transportation projects. This process is critical for the Department to receive an estimated $2.5 Billion a year in reimbursements.

The proposed FADS system will include an application server and a database server that will use UNIX as its operating system. The front end will be a WEB browser utilizing Oracle Forms (version 5.0) for creating screens, Oracle Reports (version 3.0) for creating standard reports, and Discoverer 2000 for creating ad-hoc reports. The proposed FADS system will improve reporting capabilities, will be more efficient, and user friendly. This will result in time savings for staff and accelerate project delivery.

1.04 Combine FADS with CTIPS and LP2000

It is also proposed to combine the Federal Resources (FADS) business needs with the business needs of Transportation Programming (CTIPS) and the Division of Local Programs (LP2000). The combined system is called the California Transportation Infrastructure Funding System (CTIFS) and will maximize the benefits of each Division's data systems so that project programming, fund obligation, and federal agreement processes are streamlined for State and Local Agency transportation projects and programs.

With the proposed upgraded system, users will have view access to the ledger balances. Ad hoc reporting capabilities will allow users to track fund use by funding program. This could be accomplished at the State, local agency or regional agency level. The upgraded system would also be accessible to project managers and engineers to see the federal authorization and obligation status of their projects.

2 CONSTRUCTION

2.20 Information Technology Systems

Construction is working towards improving and adding functionality to existing information systems and developing new systems that reduce manual and increase automatic process, thereby allowing improved contract time and reduction in delays. A potentially larger portion of district construction staff's time may be utilized for ensuring timely prosecution of the work and earlier resolution and settlement of delay disputes.

2.21 Automated Workzone Information System

In an effort to improve safety and traffic operations in work zones, the Department made the decision to deploy for evaluation different Automated Workzone Information Systems (AWIS) at different construction work zones around the state. Up to six systems are planned for this evaluation. The AWIS systems can provide real-time traffic delay, speed, alternate route or special events information to the motoring public.

2.22 Postponed Start (Contractor Submittals)

Construction is developing a specification that will require certain documents to be submitted by the Contractor and approved or accepted by the Engineer prior to the start of construction operations. Standard submittals required prior to construction operations will be the baseline CPM schedule, water pollution control program or storm water pollution prevention plan, dispute review board nominee, notice of materials to be used, and (traffic) contingency plan. This specification is intended to avoid contractor's delays near the beginning of the project by getting the contractor "in and out" of the jobsite as expeditiously as possible.

2.23 Dispute Review Adviser (DRA)

Construction is finalizing specifications, guidance and agreements for a DRA on all contracts between $3 million and $10 million. The DRA is a one-person board performing a function very similar to that of a Dispute Review Board.

3 DESIGN

3.09 Timely Development of Cooperative Agreements

An on-line course on Cooperative Agreements is available through the Division of Design's intranet and Internet web site. It covers the fundamentals of the what, why,

who, when, and how of Cooperative Agreements. It is available to everybody including the Department, Local Agency and consultant staffs.

The Office of Cooperative Agreements is also working on a document assembly tool with the intent of automating the writing of custom, project specific, and pre-approved agreements. A basic version of this tool is scheduled for implementation in February 2007. It will dramatically improve the responsiveness to project needs and legal requirements, the time frame to an executable document, and the confidence of a fully supported process.

The Division of Design's website currently includes many cooperative agreement templates that have been used in the past for certain project scenarios. They are available as reference material only as they are no longer being maintained in anticipation of the new automated tool coming on-line. They are listed as attachments to the Cooperative Agreement Manual.

3.10 Design Build

Design-Build is a project delivery method under which a single contract is executed for both the design and construction of a project. Some of the advantages of Design-Build are faster delivery, cost containment, and allocation of risk to the party best able to manage it. Design-Build can also promote innovative design and construction techniques. Current law prohibits the Department from utilizing this delivery method, but numerous bills have been proposed in the past to give the Department this authority.

4 ENGINEERING SERVICES

4.14 Internet Bidding

DES-OE sees the potential for getting lower project costs through increased competition and also for shortening processing times via Internet bidding. Work has already begun on the next phase, which is to get Department of Finance approval and funding for procuring and implementing a full production system. DES-OE has purchased AASHTOWare software that will enable submittal of bids electronically.

5 ENVIRONMENTAL

5.16 Improved Scoping and Scheduling

The Department has and is continuing to develop tools to inform the planning process of environmental concerns. Project delivery can be hampered when the environmental phase of the project is not properly scoped prior to programming, which often leads to an unrealistic schedule and unanticipated costs and delays. The Division of Environmental Analysis (DEA) is working on becoming more agile and thorough in its scoping. DEA is developing the "PEAR tool," which is an automated scoping tool that uses electronic forms and available Geographic Information System (GIS) information. This tool should be in place by 2008. The

system allows the user to define the limits of a transportation project and overlay views of previously mapped environmental resources that must be addressed during the environmental process. While by no means a substitute for detailed investigations, the tool provides an early warning of environmental constraints and issues, allowing the planners to avoid the resources, if possible. It also allows the planner to better anticipate the scope, costs, and schedule for the eventual environmental studies, coordination with resource and permitting agencies, and mitigation of impacts.

Second, to augment the physiographic and resource data in the GIS tool, which primarily comes from other agencies' inventories, the Department is conducting its own inventories to document cultural and biological resources within the Department's rights-of-way. Using Transportation Enhancement Activities (TEA) funds, the Department has completed the roadside archaeological inventories in Districts 2, 5, 9 and 10; is currently conducting inventories for Districts 4 and 11. The more detailed data from these surveys will augment the broad-based GIS planning tool, and facilitate the scoping and scheduling of projects on existing routes.

5.17 NEPA Delegation

In SAFETEA-LU, California was named as one of five pilot states eligible to apply for delegation of FHWA's NEPA responsibilities for one or more highway projects in the state, and for FHWA's coordination and consultation responsibilities under other federal environmental laws. The goal of the pilot is allow states to demonstrate approaches to streamlining the environmental processes while maintaining environmental protections. The environmental process is expected to be streamlined because the Department, rather than transmitting documents through FHWA for approval, will be approving NEPA documents in-house and will be coordinating directly with federal resource agencies. The Department expects to request delegation for all projects, with the exception of a small number of projects on which FHWA is assisting at high levels. The Division of Environmental Analysis is actively working with FHWA, local partners, and federal resource agencies to apply for and successfully implement delegation.

5.18 Environmental Management System—PEAR and STEVE Tool

Two projects are under way in response to the Business Process Review (BPR) completed and published January 2003: the PEAR Tool, which is discussed in Section 1.1.1 above, and the Standard Tracking Exchange Vehicle of Environmental (STEVE) Tool. The STEVE Tool will achieve multiple business objectives including:

- Facilitating the sharing and tracking of environmental information
- Providing a single source for environmental information retrieval
- Expediting environmental process by reducing delays in reviewing environmental documents

- Managing resources by monitoring the environmental process from project initiation through project completion

5.19 Environmental Engineering—Hazardous Waste and Noise

Development is underway on the Hazardous Waste Handbook, a guide for district staff to use on hazardous waste projects. Goals for the handbook are that it is: 1) simple to use, 2) interactive and web-based, and 3) contains information on the specific types of hazardous waste projects most frequently encountered by the districts--aerially deposited lead (ADL), underground storage tanks (USTs), asbestos, and superfund sites.

Development is also underway on databases for ADL and soundwalls to simplify the reporting process to the Department of Toxic Substances Control and the Federal Highway Administration.

5.20 Coast Highway Management Plan, Big Sur Coast

Under an interagency agreement, initiated in April 1999, the Department and the California Coastal Commission have agreed to jointly develop a management plan for the Big Sur Coast which includes the following goals: provide a coordinated approach to maintaining the Route 1 corridor along the Big Sur Coast; streamline interagency coordination and regulatory approvals for transportation projects associated with Route 1; coordinate with public agencies that manage natural and recreational resources, such as State Parks, Los Padres National Forest, and Monterey Bay National Marine Sanctuary that adjoin Route 1. The Department has funded a position with the Coastal Commission to assist in preparing portions of the management plan addressing coastal shoreline access, visual resources, land uses, and other pertinent issues. Effort on the plan is complete, but effort on environmental approval of the plan is continuing.

6 LOCAL ASSISTANCE

6.13 National Environmental Policy Act (NEPA) Delegation

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) Section 6005 NEPA Delegation designates the State of California as one of five states eligible to apply to participate in a six-year pilot program that delegates to the State the responsibilities of the Secretary of Transportation under the National Environmental Policy Act (NEPA) for one or more highway projects within the State. The State is proposing to request delegation for all State and local agency highway projects on the State Highway System (SHS) and all Local Assistance projects off the SHS. The Divisions of Local Assistance and Environmental Analysis are working collaboratively on every level to insure all resources needed to assume full delegation for NEPA upon execution of the FHWA/CT MOU (expected Spring 2007) are available and fully functional.

The Division of Local Assistance received budget authority for 6 (unfunded) 3-year limited-term positions to assist with "off-system" local agency project delivery. The positions have been approved in the Department's budget as reimbursed work. These positions will be immediately utilized, commencing now, to assist with the initial implementation of NEPA Delegation in each district, including record keeping, database management, and regional workshops and training.

The NEPA Delegation Pilot Program has the potential to accelerate project delivery by eliminating the need for FHWA review and approval of NEPA documents and their participation in formal consultation with other federal agencies.The Department expects the following actions to be completed and, dependent upon the transportation bond passing in November, to be fully delegated by Spring 2007:

- Waiver of Sovereign Immunity
- FHWA's publication of the final rule on application requirements
- Completion of the 30-day public review period for the application
- FHWA's final review and acceptance of the application
- Negotiation and execution of the final Memorandum of Understanding (MOU)

Once the NEPA Delegation MOU is executed, the six positions in the DLA will begin to carry out the duties currently performed by FHWA for local assistance projects of the State Highway System and will facilitate with FHWA audits and reporting.

7 PROJECT MANAGEMENT

7.12 Project Resource and Schedule Management

Project Resourcing and Schedule Management System (PRSM) will be an enterprise project management system that will provide integrated scheduling and timekeeping capabilities for the Department's Capital Outlay Support (COS) statewide. PRSM will be a Commercial-of-the-Shelf ("COTS") system. Its exact functionality will depend on what is available on the market. PRSM is intended to be an easy-to-use project scheduling system that:

- Allows portions of the Work Breakdown Structure (WBS) on each project to be assigned to individual employees ("Task Managers").
- Allows Task Managers to update current schedules, labor hour estimates and assignments on their work using a web browser, while preventing them from making any other changes.
- Allows all employees to see current cost and schedule information using a web browser.
- Integrates with Staff Central to ensure that employees know what labor charges they are authorized to make on projects.
- Assists supervisors and managers to prioritize the work of their units.

- Assists supervisors and managers to estimate their future workload and plan for that workload.
- Compares project costs with the project budgets.
- Forecasts the final cost of each project phase.

Additional information is available at the PRSM intranet site: http://projdel/pm/pmip/148home.asp.

7.13 Documentation of Knowledge, Experience, Abilities and Skills for Project Delivery Roles

- Project Delivery suffers when knowledgeable and experienced employees leave and candidates with inadequate experience, knowledge, or abilities are hired or promoted to fill vacancies.
- Employees want to know what knowledge, experience, abilities, and skills they should acquire to meet their career goals in Project Delivery.
- Managers and supervisors want to be confident that there will be candidates ready, able and trained to fill vacancies as they occur.

A team representing all Project Delivery divisions is documenting the knowledge, experience, abilities and skills needed for Project Delivery roles. The effort includes

- A list of the roles that employees undertake in each of the project delivery functions: Environmental, Design, Right of Way, Construction, Engineering Services, Traffic Operations and Project Management.
- A description for each Project Development role.
- A list of needed qualifications (knowledge, skills, abilities, experience) for each of the PD roles.
- Duty statements for each of the project delivery roles.
- A list of mandatory and job-required courses for each project delivery role.
- Documentation of, and a development of a tool (or a system) that encompasses and gives easy access to, the above listed information.

This effort is part of the Succession Planning effort, which is a response, in part, to the 2002 Employee Survey. It will also be used to update the Learning Management System (LMS).

8 RIGHT OF WAY AND LAND SURVEYS

8.24 U.S. Forest Service Agreement

Together with the U.S. Forest Service and FHWA, the Department has developed a three party Memorandum of Understanding (MOU), for implementation in all National

Forest Management Regions within California. The MOU is in the final stages of the approval process. Once finalized the MOU will clarify future project lead agency environmental responsibilities and processing, facilitate Right of Way acquisitions on those projects, and provide a vehicle to clear up previous title issues along existing highways. In an effort to improve interagency processes and expedite project delivery, the Department will take the lead agency role for completing the environmental process. The process requires a centerline and standard corridor measurement be established on all existing and new highways so that Right of Way can easily acquire consistent rights through the forest lands, and even across district lines. Policies and procedures in the Right of Way Manual will provide guidance for Department staff.

8.25 Single Agent Appraise/Acquire Limit Increase

Approval is pending with FHWA to increase the successful "Single Agent Appraise/Acquire Process" from $10,000 to $25,000. This tool will provide additional staff assignment flexibility to Right of Way managers in meeting project delivery needs through the most efficient use of staff. It will minimize multiple agent contacts with property owners and trips to property.

8.26 Machine Guidance Technology in Construction

Machine guidance technology uses positioning devices, alone or in combination, such as Global Positioning Systems (GPS), Total Stations, or rotating laser levels to determine the real time X, Y, and Z position of construction equipment and compare the position against a Digital Design Model stored in an onboard computer. A computer display shows the operator several perspectives and delta values of his/her position compared to the design surface. This technology has the potential to increase the contractor's productivity, reduce the number of survey stakes and reduce construction working days. The construction industry is currently implementing machine guidance and the Department is developing interim guidelines to foster its use.

Interim Guidelines completed and posted at:
http://pd.dot.ca.gov/row/offices/landsurveys/documents/Interim-Guidelines-for-Machine-Guidance-Technology.pdf.

A Machine Guidance activity was included in the GoCalifornia Industry Capacity Expansion effort. A pilot project is being developed in District 11 with a nonstandard special provision to allow the Contractor to bid the project using machine guidance technology.

8.27 Integrating Geo-spatial Technologies into the Right of Way Data Management Process

An effort is underway to integrate Geographic Information Systems (GIS) and database management systems into the Right of Way process. Current right of way data systems are not linked spatially to parcels or centerlines. With a geospatial link, physical location can be used to integrate multiple data sets and management systems across activities and to improve visual, as well as textual search capabilities. The ability to access and retrieve data electronically will provide convenience and improved decision-making, coordination, data consistency and accessibility to all users.

8.28 Terrestrial Laser Scanning

Laser scanners are increasingly being used to measure and model bridges, structures, roadways, slide areas, accidents, and archeological sites. The large amounts of data collected allow very detailed modeling of surfaces. Traditional surveying instruments are limited to locating one point at a time. Laser scanning has the potential to be safer and more efficient than current methods. This technology will provide transportation engineers with real-time data on structures and roadways, not possible with traditional surveying instruments, and has the potential to accelerate design and construction. The technology is currently being tested for determining pavement elevations and research is underway for bridge clearances and structures modeling.

8.29 Real Time GPS Network RTN

Real-time infrastructure systems, such as the Orange County RTN and the Ohio DOT's Virtual Reference System Network, enable users' instantaneous centimeter accuracy positioning in the field. Implementation of RTNs has the potential to dramatically decrease the need for in-ground monumentation for survey control and traditional line-of-sight surveying measurements. Personnel resources currently required to setup and guard GPS base stations can be freed up to perform other tasks. Applications of this technology could provide advanced safety features for transportation, increased use of machine guidance technology, and support intelligent transportation systems. An operational RTN exists in Orange County, and others are planned for San Diego, Los Angeles, Riverside and the Bay Area.

8.30 Early Involvement for Railroad Appraisals

Appraisals of railroad properties require special handling, including being submitted to Headquarters Right of Way for review and approval. Proper handling of railroad requires a high degree of coordination between numerous departments including Legal, Structures, Project Development and Right of Way. In addition, in response to our partnering sessions with the Union Pacific Railroad, this list of partners is expanded to include railroad representatives. Early involvement of the railroad representatives, coordinated through the Region/District Railroad Agent, will streamline the appraisal process by providing timely information regarding the

railroads use of the required property and the affects of the construction in the manner proposed. This coordination provides the appraiser with the information necessary to produce the appraisal report with much less chance of rework due to discovery of new information later in the right of way process.

8.31 Use of New Technology

To help streamline the review process for non-delegated appraisal reports, Headquarters and the Region/Districts are encouraged to use electronic transmission of review findings, revised pages, Memoranda of Adjustment, reviewer certificates and approvals. By using e-mail and facsimile (fax) machines, the time required to complete the Headquarters review and approval process can be shortened significantly.

Other technology that aids in streamlining the appraisal process includes use of online resources. Remote Districts can use online services to access Assessor's records and Recorder's offices, when these services are available. This can save the Department both time and cost for travel to obtain documents required in the confirmation of comparable sales.

Additionally, the elimination of archaic reporting requirements, such as transmittal letters for corrected or revised pages and stamping "HEADQUARTERS APPROVED" on the Parcel Summary Page, will also help to streamline the appraisal process.

8.32 RTK GPS Equipment and Specifications

Global Positioning Systems (GPS) and advanced surveying technology have boosted the efficiency of the Department's surveying operations. The deployment of real time kinematic (RTK) GPS equipment allows surveying crews to produce project delivery surveying products more quickly and safely. The Department's surveyors developed "first of their kind" specifications to standardize RTK GPS methods and ensure repeatability of results. These specifications have now been adopted nationally.

9 TRANSPORTATION PLANNING

9.03 Route Optimization Analysis Tools

The Division of Transportation Planning (Planning) is working on a pilot project with the primary objective of finding a cost effective solution to provide a full range of potential route alignments, with alignment costs, through an alternative route optimization tool. This will accelerate project delivery by reducing the potential for delays in the approval of a project due to additional requests for investigating

additional alignments. This tool may also reduce project delays caused by late discoveries of unforeseen environmental or socioeconomic or political issues.

9.04 The Evaluation of Performing Engineering Quality Survey Mapping During the PID for Selected Projects

Planning in conjunction with the Division of Right of Way and Land Surveys will evaluate the potential for acceleration of transportation improvement projects by performing engineering quality mapping during the Project Initiation Document (PID). The request and delivery of design quality photogrammetric and/or survey maps during the PID will accelerate the design process considerably. In addition to facilitating delivery of transportation improvement projects, the early request of design quality mapping will ensure that potential design issues may be foreseen earlier in the project development cycle, that design estimates are more accurate, and that construction change orders are minimized. The evaluation will examine its effectiveness, criteria for project selection, and funding mechanisms.

10 TRANSPORTATION PROGRAMMING

10.04 Enhanced Information Technology

Programming continuously improves their web site to insure the availability of real-time programming information. The site includes the adopted STIP; approved SHOPP; CTC Agendas, Meeting Book Items, and Action Taken Reports; and status of FSTIP amendments and links to websites containing project delivery resources. Improving the website will enhance its operation, and insure that it is user friendly and an efficient programming information tool, which accelerates program/project delivery.

Status of Improvements

ID	Description	Owner	Status	Year Implemented	Target Implementation	Comments	Page #
1.01	Streamlining the Federal Authorization Process	Budgets	Implemented	2002		Various streamlining efforts implemented as a result of Stewardship agreements with FHWA. All have resulted in time savings in processing projects.	2
1.02	Soft Match and Tapered Funding	Budgets	Implemented	2002		This has allowed the Department to pursue early acquisition of right of way prior to environmental document approval.	2
1.03	Upgrade the Federal-aid Data System (FADS)	Budgets	In Progress		2007	FADS will be upgraded to a web-based application by IT this year.	38
1.04	Combine FADS with CTIPS and LP2000	Budgets	On Hold		2009	The consolidation of FADS with CTIPS and LP2000 will take place following FADS upgrade.	38
2.01	Critical Path Method Scheduling	Construction	Implemented	1995		Provides incentive for contractors to stay on schedule.	3
2.02	Constructability Reviews	Construction	Implemented	1997		Expanded to all major projects in 1998.	3
2.03	Cost-plus-Time (A + B) Bidding	Construction	Implemented	2000		A+B Bidding was piloted in 1993. FHWA declared A+B Bidding as non-experimental in 1995. Guidance was updated in 2002.	3
2.04	Incentives/Disincentives	Construction	Implemented	2000		Guidelines for employing I/Ds were issued in June 2000.	4
2.05	A + B with I/Ds	Construction	Implemented	2000		These items can be used together when there is a critical internal milestone.	4
2.06	Internal Milestones	Construction	Implemented	2001			4
2.07	Joint contractor/state Value Analysis Study Immediately After Contract Approval	Construction	Implemented	2001			4
2.08	Construction Contract Time	Construction	Implemented	2001		Policy implemented in February 2001.	5
2.09	Differing Site Conditions Management Review Committee	Construction	Implemented	2002		Process results in statewide consistency in dealing with DSC disputes.	5
2.10	Time-Related Overhead	Construction	Implemented	2000		Inclusion of TRO bid item was implemented on a pilot basis in 2000. Preliminary results have been favorable.	5
2.11	Increased Construction Cost Savings to the Contractor for Reducing Traffic Congestion	Construction	Implemented	2002		AB 1530 became effective on January 1, 2002.	6
2.12	Contract Disincentives to Promote Timely Construction Completion	Construction	Implemented				6
2.13	Emergency Contractor Registry	Construction	Implemented	2000		2500 contractors have voluntarily registered.	6
2.14	(Traffic) Contingency Plans	Construction	Implemented	2001		Developed SSP 12-220	7
2.15	Notched Wedge Paving	Construction	Implemented				7
2.16	Dispute Review Board (DRB)	Construction	Implemented	2002			7
2.17	Policy to Pay for Acceleration Costs During Construction When Cost Effective	Construction	Implemented	2001			7
2.18	Lane Closure Software	Construction	Implemented				8
2.19	On-line Debarment List of Debarred Contractors	Construction	Implemented	2004			8
2.20	Information Technology Systems	Construction	In Progress		2011	CMS project started July 2006.	39
2.21	Automated Workzone Information System	Construction	In Progress			Two systems tested as pilots. None selected to date. This item was transferred to Traffic Operations. No standard specification at this time. Some Districts are using system.	39
2.22	Postponed Start (Contractor Submittals)	Construction	In Progress		2007	Pending final concurrence from Design. Package ready for Office Engineer.	39
2.23	Dispute Review Advisor (DRA)	Construction	In Progress		2007	Specifications are 95% complete. SSP request to Office Engineer is expected late 2006.	39

ID	Description	Owner	Status	Year Implemented	Target Implementation	Comments	Page #
3.01	Re-engineering the Project Development Process	Design	Implemented	1999		Re-engineering team completed report in 1999. While the entire concept was not approved nor implemented, ideas generated during this study have been.	8
3.02	Increased Response to Statewide Cooperative Agreements	Design	Implemented	2004		Office of Cooperative Agreements created. Updated Chapters 9, 12, and 16 of the PDPM in 2005.	9
3.03	Lump Sum Highway Planting Project	Design					9
3.04	Landscape Architecture Standards Manual	Design			2006		10
3.05	Design-Sequencing	Design	Implemented	2000		Phase I Pilot Program consisted of 10 projects of which 7 have been completed and 3 are still in construction. Average time savings is 4 months. Phase II Pilot has just begun with 4 projects selected and 1 project in construction.	10
3.06	Project Change Control	Design	Implemented	2000			10
3.07	Value Analysis	Design	Ongoing			Department has been performing VA since 1969. Recent Federal legislation has mandated studies on projects meeting specific criteria.	11
3.08	Project Development Process – On-Line Course	Design	Implemented	2005		On-line sessions are held twice a month for 20 to 100 students each.	11
3.09	Timely Development of Cooperative Agreements	Design	In Progress		2007	Agreement automation tool is scheduled for implementation in February 2007.	39
3.10	Design-Build	Design	In Progress		2007	Department is still trying to obtain authority to use Design-Build.	40
4.01	Reduced Listing Period	Engineering Services	Implemented	2001			12
4.02	Reduced Advertising Period	Engineering Services	Implemented	2001		Based on GoCA-ICE, DES-OE is investigating changes in the advertisement durations based on industry issues.	12
4.03	Contract Execution Period	Engineering Services	Implemented	2002		Average cycle time duration reduction = 1.4 days	12
4.04	New Contractor Webpage	Engineering Services	Implemented	2005		New Contractor Information webpage implemented with hotlink from CT webpage.	12
4.05	Streamlined Plans, Specifications and Estimate Submittal Process	Engineering Services	Implemented	2002		Electronic submittals has reduced mail submittal time from 3 to 0 days.	13
4.06	Training by DES-OE	Engineering Services	Implemented		Continuous	Classes updated each year to meet District training needs.	13
4.07	Electronic Bidding Pilot	Engineering Services	Complete	2002		Proof of concept completed.	13
4.08	Authority to Advertise District Delegation Process	Engineering Services	Implemented	2001			13
4.09	Risk Advertising	Engineering Services	Implemented	2001		Risk Advertisement process updated in 2006 to include risk votes and clarify responsibilities and process.	13
4.10	Update of Standard Specifications and Standard Plans in Dual Units/Conversion to English Units	Engineering Services	Implemented	2004 2006		In 2005, the Department decided to convert back to US Customary Units (English). DES-OE delivered the US Unit standard specifications and plans in May 2006.	14
4.11	Provide Electronic Access to Project Documentation	Engineering Services	Implemented	2005		Districts to determine if handouts are provided on CD media. E-files provided on CD media should be in "read only" format.	14
4.12	Purchase of Bid Packages via the Internet	Engineering Services	Cancelled	2005		Security issues requires bidders to purchase bid packages at the bid counter or by FAX.	14
4.13	Soundwall Specification	Engineering Services	Implemented	2003		DES-SDSEE is the specification owner for soundwalls.	14
4.14	Internet Bidding	Engineering Services	In Progress		2008	Software purchased. No vendors could meet Department standards for web-enabled bidding. Purchased AASHTOWare program that will enable submittal of bids.	40

ID	Description	Owner	Status	Year Implemented	Target Implementation	Comments	Page #
5.01	Organizational Change	Environmental	Implemented	2001		Has facilitated project delivery and environmental streamlining, because the key functions during the development of a project are now aligned under one Deputy Director.	15
5.02	"Mare Island Accord"	Environmental	Implemented	2000		Has resulted in improved interagency relationships and a better understanding each other's mandates and challenges.	15
5.03	Renegotiation of NEPA/404 Integration Process MOU	Environmental	Implemented	2006		New MOU is more flexible and reflects lessons learned from the previous agreement.	16
5.04	Resource Agency Partnering Agreements	Environmental	Implemented	2000		Program recently expanded to include the California/Nevada Operations Office of the U.S. Fish and Wildlife Service.	16
5.05	Programmatic Agreements with Resource Agencies	Environmental	Implemented			Opportunities for more programmatic biological opinions are being explored and may be implemented.	17
5.06	Mitigation Banking and Process Improvements	Environmental	Implemented			Working to develop new methods to collaborate with resource agencies consistent with new SAFETEA-LU provisions.	17
5.07	Environmental Impact Statement (EIS) Review Process Improvement	Environmental	Implemented	1998		Process updated in 2001 and 2003. Has resulted in better quality and shorter review times.	18
5.08	Consistent Approach to Well-Defined Project Need and Purpose	Environmental	Implemented	2004		Deputy Directive has been implemented. Resources on developing Purpose and Need statements have been posted online.	18
5.09	Quality Control Plans	Environmental	Implemented	2002		Has resulted in improved document quality and reduced FHWA review times. Process underwent independent review in Summer 2006.	19
5.10	Preliminary Environmental Assessment Report	Environmental	Implemented	2001		The PEAR handbook is undergoing revisions to address changes and improvements in the environmental scoping process.	19
5.11	Multi-Agency Working Group to Address Assessment of Cumulative Impacts	Environmental	Implemented	2006		Guidance for cumulative impacts was developed 2005. Indirect impact analysis was developed in 2006.	19
5.12	Annotated Outlines for Environmental Documents and Standard Formats for Biological Opinions	Environmental	Implemented	2004		Has improved the quality of environmental documents and facilitated reviews by state and federal agencies by providing a consistent format. Guidance was updated in 2006.	20
5.13	Disposal Site Quality Team	Environmental	Implemented	2001			20
5.14	Standard Environmental Reference	Environmental	Implemented	2002		Publication of SER began in spring 2002 and is essentially completed. Refinements and additional information is being added continuously.	21
5.15	Programmatic Categorical Exclusion	Environmental	Implemented	2003		New programmatic categorical exclusion agreement includes a broader range of projects and expands the programmatic approach.	21
5.16	Improved Scoping and Scheduling	Environmental	In Progress		2008	Department has completed roadside archaeological inventories in Districts 2, 5, 9, and 10.	40
5.17	NEPA Delegation	Environmental	In Progress		2008		41
5.17	Environmental Management System -- PEAR and STEVE tools	Environmental	In Progress		2008	Both tools are under development.	41
5.18	Environmental Engineering -- Hazardous Waste and Noise	Environmental	In Progress		2007	A Hazardous Waste Handbook is in development to guide district staff on hazardous waste projects.	42
5.19	Coast Highway Management Plan, Big Sur Coast	Environmental	In Progress		TBD	Effort on Management Plan was completed in 2004, but environmental approval for the plan is not complete.	42
6.01	Increased Training	Local Assistance	Implemented	2006		Continuous updates as needed	22
6.02	Increased Technical Assistance	Local Assistance	Implemented	2000		Effort abandoned due to elimination of "enhanced services" resources.	22

ID	Description	Owner	Status	Year Implemented	Target Implementation	Comments	Page #
6.03	Simplified Agreement Process	Local Assistance	Implemented	2001			22
6.04	Delegated Allocation Authority	Local Assistance	Implemented	2001			23
6.05	Reduced Number of Pre-Award Audits Requirements	Local Assistance	Implemented	2000			23
6.06	Use It or Lose It	Local Assistance	Implemented	1999			23
6.07	Manuals and Guidelines on CD ROM	Local Assistance	Implemented	2006		Manual and guidance now available on DVD or CD.	23
6.08	Improved Program Management Direction and Communications	Local Assistance	Implemented	2006		Instituted Planning and Local Assistance Network (PLAN), Hot Topics and Sub-team meetings.	24
6.09	Electronic Forms (Forms Plus)	Local Assistance	Implemented	2006		Users can now obtain new forms as soon as new LPPs are issued.	24
6.10	Expedite Reimbursements	Local Assistance	Implemented				25
6.11	Standard Environmental Reference	Local Assistance	Implemented	2002		In conjunction with the Division of Environmental Analysis.	25
6.12	Improved Training	Local Assistance	Implemented	2006			25
6.13	National Environmental Protection Act (NEPA) Delegation	Local Assistance	In Progress		2007		42
7.01	Project Charter Policy	Project Management	Implemented	2001		Charter process is intended to help manage project scope and reduce rework.	25
7.02	Capital Project Skill Development Plan	Project Management	Implemented	2000		Current annual goal is to provide approximately 200,000 hours of training.	26
7.03	Use of flexible resources to deliver projects	Project Management	Implemented	2001		New consultant contracts are continuously being developed and awarded.	26
7.04	Revised Milestone Standard	Project Management	Implemented	2001		New Milestones are now in use.	26
7.05	Project Management Professional certification	Project Management	Implemented	1999		250 employees have passed the PMP statewide.	27
7.06	Lessons Learned Database	Project Management	Implemented	2003		Statewide publicity effort will occur in the Fall of 2006.	27
7.07	Project Close Out	Project Management	Implemented	2003			27
7.08	Project Communication Handbook	Project Management	Implemented	2003		Available online. To be updated in 2006/07 fiscal year.	28
7.09	Project Management Certificate Program	Project Management	Implemented	2002		285 graduates with 250 others in progress.	28
7.10	Project Delivery Contracts	Project Management	Implemented	2005		Contracts for 2006/07 fiscal year were signed in June 2006.	28
7.11	Development and Use of Risk Management Plans for Capital Projects	Project Management	Implemented	2004		Handbook available online and will be updated in 2006-07 fiscal year.	29
7.12	Project Resource and Schedule Management	Project Management	In Progress		2008	Contract award is expected in October 2006. The 18-month implementation contract will run through 2008.	43
7.13	Documentation of Knowledge, Experience, Abilities and Skills for Project Delivery Roles	Project Management	In Progress		2007	Skill documentation will be rolled out statewide as part of the PRSM implementation beginning in May 2007.	44
8.01	One-Call Acquisition	Right of Way and Land Surveys	Implemented	2000		Department has requested approval from Department of Finance to raise limit from $2500 to $10,000.	29
8.02	Single Agent Appraise/Acquire Process	Right of Way and Land Surveys	Implemented	2001		Department has requested approval from Department of Finance to raise limit from $2500 to $10,000.	29
8.03	Streamlined Process for Parcels < $10,000	Right of Way and Land Surveys	Implemented	2001			30
8.04	Resolution of Necessities by Locals	Right of Way and Land Surveys	Implemented	2001		Implemented with Department Memorandum dated December 10, 2001. Clarifying memoranda have been subsequently released.	30
8.05	Right of Way Acquisition prior to Environmental Approval	Right of Way and Land Surveys	Implemented	2000			30
8.06	Streamlined Positive Location (Potholing) Process	Right of Way and Land Surveys	Implemented	2001		To date, 251 agreements have been executed.	31

ID	Description	Owner	Status	Year Implemented	Target Implementation	Comments	Page #
8.07	Right of Way Project Delivery Team	Right of Way and Land Surveys	Implemented			Team curtailed due to staff reorganization	31
8.08	Quality Enhancement Joint Review Process	Right of Way and Land Surveys	Implemented	Annually	Continuous	Utility Relocation QEJR planned for North Region, Central Region, District 4 and District 7. In 2006/07. Planning and Management QEJR planned for Central Region in 2006/07.	32
8.09	Right of Way Intranet Site	Right of Way and Land Surveys	Implemented	2002		Relocation Assistance Program (RAP) Best Business Practices have been posted on the intranet site.	32
8.10	Utility Design Activities Prior to Environmental Approval	Right of Way and Land Surveys	Implemented	2002		Guidelines for this process are outlined in Utility Reference No. 02 01	32
8.11	Increased Awareness of Right of Way Activities	Right of Way and Land Surveys	Implemented	2000	Continuous	Course developed in 2000. Delivered over 30 classes of "Right of Way and You" to staff. Delivered "Engineering Your Project Utilities" to over 1500 engineers.	33
8.12	Continuous Advertising for Appraisal Consultants	Right of Way and Land Surveys	Implemented	2002		This accelerated the process for entering into personal service contracts.	33
8.13	Improved Certificate of Sufficiency Process	Right of Way and Land Surveys	Implemented	2004		Decision Document approved April 2004.	33
8.14	Statewide A&E On-Call Surveying Contracts	Right of Way and Land Surveys	Implemented	2001		Contracts expired in 2005.	33
8.15	Vangarde Remote Surveying System	Right of Way and Land Surveys	Implemented			Ten systems are in use throughout the Department.	33
8.16	Specifications for Surveying on Superstructures	Right of Way and Land Surveys	Implemented	2004		Provides uniform and consistent support statewide in the form of construction stakes on superstructures.	34
8.17	Right of Way Engineering Mapping Standards	Right of Way and Land Surveys	Implemented	2003		Improved communication and coordination reported.	34
8.18	Utility Relocation Master Contracts	Right of Way and Land Surveys	Implemented	2004		Ten Master Contracts have been executed.	34
8.19	Letter/Notice to Property Owners for Environmental Study Entry	Right of Way and Land Surveys	Implemented	2003		Letter/Notice to Property Owners for Environmental Study entry developed in coordination with Legal.	34
8.20	Joint Training for R/W Utility Coordinators and District Local Assistance Engineers	Right of Way and Land Surveys	Implemented	2005		Joint training for Right of Way Utility Coordinators and District Local Assistance Engineers was delivered in June 2005.	35
8.21	Assuming Greater Role in Delivery of Training to Local Public Agencies and Consultants	Right of Way and Land Surveys	Implemented		Continuous	Developed partnership and continuously working and training Local Public Agencies and Consultants.	35
8.22	Quality Management in Right of Way and Land Surveys	Right of Way and Land Surveys	Implemented	2005		Five statewide quality working groups have submitted draft QMP in May 2005.	35
8.23	Improve Accuracy in Right of Way Estimates	Right of Way and Land Surveys	Implemented	2005		Cost Estimate Map Toolbox has been posted.	35
8.24	U.S. Forest Service Agreement	Right of Way and Land Surveys	In Progress		2008	U.S. Federal Land Transfer Coordinator was hired in April 2006 and will deliver the MOU by end of next fiscal year.	44
8.25	Single Agent Appraise/Acquire Limit Increase	Right of Way and Land Surveys	In Progress		2007	FHWA has withheld approval of limit increase until a more conclusive study indicated the benefits of such a raise. Pilot effort in North Region. (Item dependent on successful implementation of Item 7.02)	45
8.26	Machine Guidance Technology in Construction	Right of Way and Land Surveys	In Progress		2009	Interim Guidelines completed in 2004 and posted. A Machine Guidance activity was included in the GoCalifornia Industry Capicity Expansion effort. A pilot project is being developed in District 11 with a nonstandard special provision to allow the Contractor to bid the project using machine guidance technology.	45

ID	Description	Owner	Status	Year Implemented	Target Implementation	Comments	Page #
8.27	Integrating Geo-spatial Technologies into the Right of Way Data Management Process	Right of Way and Land Surveys	In Progress		2009	The Department is participating in a NCHRP research project to support deployment of a ROW MIS integrating Geo-spatial technologies.	45
8.28	Terrestrial Laser Scanning	Right of Way and Land Surveys	In Progress		2008	A one-year research contract has been executed with UC Davis to develop standards and specifications to deploy laser scanning on state projects.	46
8.29	Real Time GPS Network RTN	Right of Way and Land Surveys	In Progress		2008	District 6 has constructed a 14 station RTN to serve as a pilot project for future expansion. A draft FSR has been completed and a market survey is bing conducted to demonstrate software solutions. Funding has been requested to fully deploy the pilot project and expand the network in the Central Valley. Districts 4, 7, 10 and 11 are also actively RTN in their areas.	46
8.30	Early Involvement for Railroad Appraisals	Right of Way and Land Surveys	In Progress		Continuous	Discussion with statewide Railroad Agents at RR Functional Council on 3/14/06 and statewide Appraisal Managers at Hot Topics on 3/29/06. Statewide training necessary to ensure Railroad Agents are contacting Railroads at the PID stage.	46
8.31	Use of New Technology	Right of Way and Land Surveys	In Progress		Continuous	The statewide Surveys program is continually monitoring developments in surveying technology with the goal of employing technologies that can accelerate project delivery, increase safety or improve efficiency.	47
8.32	RTK GPS Equipment and Specifications	Right of Way and Land Surveys	Implemented		2007	Approximately 80% of Department survey crews have been outfitted with RTK GPS equipment. Goal to achieve 100% by the end of 2006/07 fiscal year.	47
9.01	Establishment of the Project Study Report – Project Development Support Document	Transportation Planning	Implemented	1999		Previously called PSR (Environmental Document Support) or PSR (Environmental Only). CTC approved policy on December 18, 1999.	35
9.02	Early Environmental Efforts/Geographic Information Systems	Transportation Planning	Implemented				36
9.03	Route Optimization Analysis Tools	Transportation Planning	Ongoing				47
9.04	The Evaluation of Performing Engineering Quality Survey Mapping During the PID for Selected Projects	Transportation Planning	Deferred			Deferred while workload norms are being established.	48
10.01	Delegated Authority	Transportation Programming	Implemented				36
10.02	Improved Scoping and Scheduling	Transportation Programming	Implemented				37
10.03	New Developments in Information Technology	Transportation Programming	Implemented				37
10.04	Enhanced Information Technology	Transportation Programming					48